An Address

ON

THE DYNAMICS OF LIFE IN RELATION TO THE NATURE OF EPILEPSY.[1]

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GENTLEMEN,—At Manchester—second in England only to the metropolis as a medical centre and source of knowledge—it is, I conceive, superfluous for me to apologise for taking a theoretical subject for such an address as that which I have the honour to give to-night. I need hardly remind you that between what we term "theory" and "fact" the transition is gradual, that much of that which we regard as fact is only fact to our thought. Observation alone is certain—observation pure and simple. The interpretation of observation introduces uncertainty in proportion to the extent to which inference is involved; to this we are often blind—blind sometimes to its existence, generally to its amount. But there is a region in which we must recognise hypothesis as absolute. It is the region below the surface whence no reflected light can pass, but whence all observed phenomena proceed. Here we must either accept indirect perception or we must be content with no perception of the causes of that which we observe. Where we can have no certainty we must be content with probability, or relinquish all attempts to know. We cannot limit knowledge to the certainty of actual observation. The help that even pure hypothesis can give is too great to be despised. If it enables us better to discern that which is in sight, to discover more of its details, to see its relations more clearly, to grasp its character more firmly, the result is surely worth an effort. These considerations prevent me hesitating to ask your attention this evening to some considerations which are hypothetical. I fear I must add that I shall be compelled to ask for your close attention. I regret that it should be so—I should prefer to discuss some simple practical subject. But there is sometimes a compulsion in the selection of a subject against which it is useless to strive. That which I now submit to your consideration has pressed on my thought for many months too persistently to permit me to use this opportunity in any other way. In doing this I shall be a trespasser. I shall have to pass into regions where I have no strict right to be, but into which I go because from them come the streams that water our own province. I wish to tell you how they appear to a stranger and sojourner in the land, and to tell you not in the language of the country, but in our own simple tongue. The subject is, as the title indicates, a double one. The general subject is useful because it seems to involve more consideration than is usually given to that which underlies many of our practical problems. Hence, the general subject—the process by which energy is manifested in the animal body—I propose to connect specially with the most obtrusive manifestation of energy we encounter—an epileptic fit. I do this also because the attempt will bring before us, I think distinctly, the essential limitation of our efforts in the presence of life, and also the way in which disease, as such, in its essential nature, is distinct from the process of its manifestation. The special subject can only come after we have considered the general problems to which I desire first to direct your thought. Yet I may point out how the phenomena of functional disorders, especially those of the nervous system, take us directly to the mysterious processes of energy and of life which underlie all we observe, and are themselves quite withdrawn from our direct scrutiny. They raise at once the problem of the nature of these processes. We cannot contemplate such disorders as epilepsy without being compelled to wonder what is their actual nature, and how their manifestations are produced. And we cannot do so apart from the consideration of similar processes in health. It is always easier to ask questi than to answer them. Disease puts before us the processes of life in startling aspect, and sometimes compels us to ask such questions more forcibly than do the normal phenomena with which we are so familiar that it needs more effort to wonder and to ask. If we observe or remember the features of an epileptic fit, we cannot help asking, Whence and how is the intense manifestation of energy which by its violence makes the fit so impressive and so alarming? The observation makes us ask a like question regarding the analogous manifestation of energy in health, Whence and how are motion produced by the muscles and the mysterious nerve force which excites the muscles to contraction? What is the source of the manifested energy? That is the first question. The answer may be familiar to you in its form, and yet it gives us only the first step on which to place our feet. As far as can be discerned all energy released is the result of chemical combination. Oxygen is everywhere brought to the complex compounds of the tissues. Simpler compounds are formed by its union with them; even, and indeed especially, carbonic acid, which may be regarded as one of the simplest combinations, is released in conspicuous amount in muscular contraction, just as it is by a like process in the combustion of coal. The energy in the latter is released as heat and light—that is, minute motion; in the former as obvious motion. This fact, that the source of the energy that is manifested in the animal body and in the processes of human life—from a sigh to a convulsion—is "latent chemical energy" makes the actual nature of this, the first, question to be considered.

Latent Chemical Energy.

Whence comes the force released by chemical union? We speak of it as "latent chemical energy," "chemical tension," and sometimes as "potential energy." For reasons to be mentioned later, it is here spoken of as "latent" and not as "potential." What conception can we form of this force? It is of fundamental importance because, first, it is as such that all energy is introduced into the body—in food and in air; secondly, it is from this that it is manifested by vital action. In this form it is received and stored, and thence it is produced. I should perhaps ask, not what conception can be formed, but what conception is held regarding it. I have, indeed, already asked this, but I have had somewhat peculiar difficulty in obtaining an answer. Into this I need not go, but I may say that the results constitute one of those mental equations the result of which is zero. I have searched in vain for any definite statement in books of the conception I desire to put before you; I cannot doubt, however, that many writers have so implied it that it is not easy to understand how they can have escaped its definite statement. I know that it is held by some distinguished biologists; but, on the other hand, I have been told by one of the most celebrated chemists that it is inconceivable. Hence I am left with at least the advantage of compulsory self-reliance. I am compelled to start from that which appears to me the only conception that is possible, and to state it as it appears to me; but I would disclaim once for all any suggestion of actual novelty. Moreover, I should also explain that I purposely avoid the use of the precise special terms which those familiar with the subject will miss, and the absence of which they may lament. I avoid them because I think their tendency would be to hinder rather than assist us.

No energy can be manifested which does not exist before in some other form. The energy that is made manifest, alike in the combustion of coal or in muscular action, must of course exist before as a definite form of energy—inconspicuous it may be, but not less real. The only form which our present knowledge enables us to conceive is inter-atomic motion, oscillatory motion of the atoms of the substances that combine. It may be, indeed, also between the molecules in which the atoms are grouped. Because we cannot, I think, conceive it except as between atoms and between molecules, it seems convenient to term it simply "minute" motion. The motion of an aggregation of molecules as a whole—that is, the motion of a mass—we may term "massive." In spite of the added conception of size which has been connected with the word "massive," it seems more clear than that which has been used in the same sense, "molar."

I fear I must ask you to approach the subject by degrees. Slow steps may make our footing less insecure on ground that is unfamiliar to us. Moreover, you must pardon me if, partly to help myself by increased consciousness of security, I illustrate that which to many of you does not need this aid.

[1] The following address was of necessity condensed in delivery, and it has been somewhat expanded in revision.

It may seem difficult to conceive that the light and heat which are liberated when a piece of coal burns exist before combustion—exist as motion in the oxygen and coal. The heat and light are forms of energy, and can be changed into any other form by adequate contrivance. They can be changed into motion not only massive in the restricted sense, but conspicuously massive in the common sense. To many the conception is familiar that minute motion is universal. To others it may be unfamiliar in spite of the attractive writings of Tyndall, Ball, and others. Yet to those accustomed to the idea it may be difficult to conceive that latent chemical energy exists as such in every substance capable of combination. That this energy, sufficient to move a railway train, should exist before combustion as minute motion among the atoms of carbon and the atoms of oxygen is not easy to conceive. It may seem that it cannot be conceived. Of course, I use the word "conception" in its widest sense, and not in that of forming in the mind an exact picture of the process. Yet we know facts which show how great an amount of energy may exist as atomic motion and yet may be absolutely imperceptible to us.

Let me ask you to conceive an instance sufficiently familiar. Supposing there is a mass of iron, a foot square, in this room at its present temperature. The mass would seem absolutely still, in mass and molecules. No energy can be discerned in it. Expose it for a short time to a temperature 100° F. higher, and bring it into the room again. Its aspect is the same, but we can find abundant evidence of energy in it. A touch reveals the change. Its atoms are in vigorous and obvious motion; from it the wave motion of heat passes off in all directions, and if properly secured this could be changed into other conspicuous forms of energy. We should find, moreover, that there is a slight increase in size in the mass, and that this held good of the smallest particle we could measure. This would compel the belief that the increased minute motion of the mass is accompanied by an increased distance between the atoms, with, therefore, a greater range of atomic movement. Presently, losing the increased motion it had acquired, it would seem as inert as before. But conceive the piece of iron moved from this room, the temperature of which it shares, into surroundings 100° lower in temperature. At once we should have all the manifestations of energy and atomic motion, which we have just conceived as presented in this room after exposure to a temperature 100° higher. We are thus compelled to believe that in every substance about us there is the minute motion of heat corresponding to its temperature. However imperceptible, it is not less energetic. Other forms of motion in the iron there may also be, but the facts just mentioned show that we must not think that vast energy may not exist as minute motion where none is conspicuous or even perceptible by our unaided senses. Nor can we venture to fix any narrow limit to the energy that may thus exist and coexist in different forms. We know, at least as far as we can know anything of the subject, that not only may a piece of iron such as I have asked you to picture in your mind be the seat of the atomic motion we recognise as heat: it may, perhaps must, be the seat of the atomic motion of electricity; it can be made the seat of the atomic motion of sound. These forms of motion—for we believe that all three are forms of atomic motion—may coexist among the same atoms—distinct, precise. If you think of a piece of glass instead of iron the coexistence becomes still more complex; and if you think of the glass as tinted the necessary definiteness of the coexistence makes the effort to grasp the phenomena distinctly useful. We may note in passing that if this conception be true it brings this form of latent energy into harmony with all our conceptions of other forms—we think of each, from light to electricity, as some form of motion, massive or minute. Indeed, we may say that it would be accurate to discard the old term, the "transformation of energy," and substitute that of the "transition of motion." Is it not curious, by the way, to note this—that long ago the search after perpetual motion has occupied ingenious minds? The search has been indeed relinquished, but the object appears before us unsought. In the energy of the universe we see nothing else but perpetual motion. Therefore I ask you to allow me to proceed on the assumption that I have indicated, that latent chemical energy is a form of minute motion. One advantage of the term "minute" is that it includes both inter-atomic and inter-molecular motion, and there is reason to believe that it is both. We know that it must be atomic, because, in combustion, atoms pass off and, recombining in a simpler form as carbonic acid, release the latent energy. The carbonic acid must be the result of the escape of atoms; but there are also phenomena in organic substances which teach us that molecules may pass off. Consider the well-known fact that a particle of musk may give off in a still room molecules sufficient in number to act on the olfactory nerves of any person entering the room, and yet the amount may be so minute that after years no loss of weight can be found. That which thus acts on the nerve in special, constant ways must be molecules of definite composition, and can scarcely be more than molecules. This shows that undivided molecules may pass away. But does not even this simple instance show much more than that? Why do they pass away? They pass off into still air; they move; what is the source of their motion? The only conceivable explanation is that their dissemination is due to a propulsive energy, and that this must be an inter-molecular force, which we can best conceive as motion—motion in such excess of the inter-molecular attraction as to expel from the musk the molecules that are upon the surface. It may be urged that there may be repulsion and expulsion of the molecules without inter-molecular motion; but in all the cases in which we can discern anything of the character of the force that causes molecular release, such as the effect of heat on every state of matter, we find evidence of motion. The relation of heat to the emanation of odours, moreover, compels the belief that inter-molecular motion is the form in which the energy exists that expels the molecules from the mass and propels them through the air.

This brings before us a second well-known fact, which we should keep clearly before our minds. Wherever there is motion as the constituent of energy there is also attraction, limiting and determining the motion. We can only conceive wave motion—such wave motion, for instance, as that which we believe most forms of energy consist of—as motion limited by attraction. I need not trouble you with instances. It is important to note that it must be the attraction between the atoms that is the chief influence in determining the range of their movement, its cessation, and its renewal. In considering these problems, others present themselves that are not strictly relevant and yet should not be passed by unmentioned, since they aid the conception. The wave motion, ever lessening or being renewed, is like that of a pendulum or like that of a bullet shot upwards. The movement gradually lessens, for a moment is *nil*, and then is renewed in the descent. As it lessens it becomes potential under the influence of gravitation; as it increases it ceases to be potential. So with all wave motion. The motion is for ever becoming or ceasing to be potential under the influence of attraction. In the bullet shot upwards, at the moment of stillness which intervenes between its ascent and descent, its motion is wholly potential. It might be so maintained by an obstruction to its descent, as in all bodies around us that are restrained from falling. In all there is potential motion, which must have existed to raise them to their place. I allude to this because that is my reason for using the term "latent energy," rather than that which is current in this connexion—"potential energy." Great as is the weight of the authority with which the latter term, "potential energy," is associated, it is only accurate when "energy" is used in the sense of manifested energy, or, as it is often termed, "kinetic energy." The word "potential" means that which *may be*. That which only "may be" is not. We cannot speak of energy as non-existent, as merely that which may be. Therefore, I think it is better not to speak of energy without qualification as "potential." It is not quite the same thing to speak of potential motion; but we shall be in a labyrinth if I pursue the point, which is, moreover, beyond my subject.

All are familiar with that which is called "chemical affinity"—the mysterious influence which causes elements to unite closely. We might compare it with gravitation but that it is, or seems to be, special, not general. Gravitation is a force of attraction related only to mass; chemical affinity is a force of attraction related to some special feature of the different elements. It connects atoms closely and, as it seems, with little room for movement. When there is much movement—that is, much latent chemical energy—the atoms are associated and kept together by some forced attraction, of which we know nothing, save that it seems to be opposed to the influence of chemical affinity. This attraction seems indistinguishable from that which, when atoms

are combined into masses, we call "gravitation," which has furnished us with the illustration of the pendulum and the bullet.[2] Of course, there is much which we cannot in any way understand, whatever hypothesis may be formed of these conditions. I should perhaps say that the little we seem to understand only shows us how imperfect is that limited comprehension. But, as I have hinted, we should not let the difficulties that are seen stand in the way of our attempt. If we are wrong, we may be a step towards the right path; if we hastily reject that of which much is at first sight unintelligible, we are thrown on this alternative—we must be content to make no attempt to perceive the nature of the facts. Thus latent chemical energy is, we conceive, minute motion. It is restrained, and therefore maintained in its form, by an attraction which binds the atoms together in molecules—perhaps first in submolecules, the minor groups that are called "radicals," which are more closely connected together than the molecules, but less closely than the atoms that compose them. The minute motion thus restrained is greatest in the simple elements, as pure carbon and oxygen; great in complex compounds, apparently in proportion to their complexity; and least in the simpler and close compounds, such as carbonic acid. When chemical union takes place under the influence of chemical affinity closer compounds are formed, with less minute motion in their molecules, and the energy which is released in the process of union is the difference in the amount of this minute motion in the substances before and after the closer union. The readiness with which the union takes place seems to depend upon the relation borne by the amount of minute motion to the attraction which limits it; the motion tends to repel the atoms from each other and would drive off those at the surface and permit them to join adjacent atoms but for the force that holds them together.

In most substances the attraction that unites is in excess of the motion that tends to separate, or the substance could not exist as such.[3] It is necessary for the motion to be increased in order to set the atoms free, so that they can yield to their affinity with adjacent atoms and combine with them. If we take simple elements (in which the atoms are grouped in molecules) the amount of motion which has to be added is great in the case of some, little in the case of others. It varies likewise in the case of the complex compounds of these elements. In proportion to the amount needed to overcome the attraction, we have what is commonly called stability—that is, a stable substance needs much motion to be added. Conversely we have instability when little additional motion is needed. In the case of coal (which, although not pure carbon, we may regard as such for our purpose), the attraction so far preponderates over the amount of minute motion that the motion has to be considerably increased in order to release the atoms. We increase, at one part of the coal, the motion of latent energy by adding that of heat, and so set these atoms free, and they instantly form compounds with less intrinsic motion, and most of that before existing among them is released as light and heat. That is what is done when we light a fire. In the case of another element, however, the minute motion is already in such excess of the attraction that the atoms at once fly off and combine with adjacent oxygen, without any need for an increase in the atomic motion. Yellow phosphorus cannot be in contact with air without "burning"—that is, without the atoms at the surface joining those of oxygen to form a close compound with little minute motion, the previous atomic motion being released as light. Is it not significant that, in the case of coal, simple heat, which we know to be motion, has the effect of releasing the atoms? Does not this confirm the hypothesis that the energy which it increases is also motion? We shall meet with so many other facts which present the same harmony with the theory that I can hardly venture in each case to draw your attention to it. But I would point out the significance of the well-known fact that when phosphorus undergoes the change from yellow into the allotropic red form, and with the change loses its instability (that is, according to this theory, loses much of its minute inter-atomic motion, so that the attraction becomes preponderant), this change is accompanied by the liberation of heat—that is, of minute motion. Time does not permit me to trace other instructive instances of the addition of motion as the cause of the liberation of the atoms and energy, and the instances are familiar, abounding on every side, that it would be needless for me to do so. Yet the fact is of fundamental importance for our ultimate conceptions. I must also ask you to note another equally important and equally familiar fact, that when this liberation of atoms, and consequent release of their motion, has begun it progresses from molecule to molecule through the mass; progresses slowly or rapidly, according to the conditions under which the atoms are combined and the character and the degree of motion that releases them. Some of the escaping motion increases that in its neighbourhood, and thus it is only needful to add motion to a few molecules. I may leave for your own consideration and comparison the phenomena of the combustion of coal, spreading slowly through the mass; those of the explosion of coal-gas, and air, in which the released motion acts with such rapidity, or the effect on gunpowder of a spark, or, perhaps still more instructively, the effect on a quantity of nitroglycerine of the simple added motion of concussion. All these are examples of the disturbance by motion of chemical equilibrium—that is, of the balance between the attraction which tends to keep together and the minute motion that tends to separate. That which makes these facts so important to us may have dawned on you already if it has not been before familiar to your thought. The added motion—a spark in the case of gas or gunpowder, heat in the case of coal, a concussion in that of nitroglycerine—is essentially the same process as that which in physiology we call the action of a stimulus. We can, I think, perceive all stimuli to be forms of added motion. In the case of many physiological stimuli the fact is too obvious to need consideration, and I believe that, where it is not obvious, the conception will be found to be one from which there is no escape. If that which is added is motion, it is probable that the energy which this increases is also motion.

THE DYNAMICS OF MUSCLE.

We pass from the inorganic processes to those that occur when energy is released from the organic substances of the animal body. We may conveniently begin with the process of life which causes the most conspicuous release of energy—muscular contraction. By this the higher organisms change their relation to the surroundings; in this alone, indeed, they manifest energy in its obtrusive form—motion. It is this that gives rise to the chief manifestation of energy in disease. An epileptic fit consists of a release of energy great in degree, intense in character, and so unusual in its features as to be startling. Thus the first question that presents itself in vital dynamics is, What is the source of the energy which muscular contraction releases, or, in common language, "produces"? It is one of the most familiar facts of physiology that all muscular action is accompanied by chemical changes—by the formation of simpler chemical compounds than those which constitute muscular tissue, and especially by the formation of carbonic acid, as in combustion. The continuous escape of this by the lungs is a fact of much and deep significance. It is a proof of the continuous process of such chemical union as we know releases energy, and its increase when muscles act is alone reason for associating the two as cause and effect. Indeed, we are accustomed to ascribe the manifestation of energy by muscles to chemical combination. The carbonic acid is, of course, due to the union of the atoms of carbon of the muscular substance with the oxygen, brought from the lungs by the blood-corpuscles, and passing from them, dissolved in the lymph, to the muscular fibres. You know that the contraction is also attended by the formation of compounds less simple than carbonic acid, but more simple than the constituents of the muscle. In general we must regard the energy manifested as that which was previously latent in the complex compounds of the muscle—i.e., motion—released when closer compounds are formed. Some points we must pass by, to ask—Whence comes the energy thus liberated? Whence comes the atomic motion which, as we conceive, constitutes the latent energy? The source of the energy, and therefore the source of the motion that constitutes it, is familiar. This is conveyed into

[2] My excuse for such mention of familiar facts is not only the fact that the address was delivered to those who are physicists only in so far as they are physicians, but also a recent statement by Mr. Huxley. He said that he had had reason to regret that his consciousness of the learned character of his audience at the Romanes Lecture he gave at Oxford, made him depart from the rule he had often enjoined on others—viz., never to assume that the hearers have the knowledge essential for understanding the statements made.

[3] I have avoided special reference to the gaseous state, which merely involves a difference in degree, and would involve statements that could not but add to the complexity of the statements, already sufficient.

the body by food, on the one hand, and oxygen, on the other; the food comes directly from vegetable and animal sources, but all is ultimately traceable to the former. In growing plants, simple compounds are broken up under the influence of light and heat. The light and heat are essential, and the evidence is conclusive that they disappear in the process—that is, the minute motion tears asunder the carbon, oxygen, and hydrogen, and to do this it has to pass into the molecules of their elements, and remain in them. As in elements, so in complex compounds of carbon and hydrogen, the motion remains constituting the energy in hidden form. This process, in the plant, is reversed when chemical union occurs in the animal body. The original simple compounds are reproduced, and the energy that was hidden is revealed and released.[4] According to this conception the motion of the light and heat passes between, and remains between, the atoms of the elements that are separated, and much remains even when they are united to a complex compound. It remains in the molecules until new conditions permit its liberation. It is the sunshine, near or distant, recent or long ago, which constitutes the source of the energy—which, in fact, *is* the energy—manifested in animal life. It is the motion of the sunshine that is the motion of the latent energy. These facts in general outline are, of course, familiar to you.[5] I mention their features because we seem to be compelled to conceive that the energy which becomes latent or hidden was originally motion, and as motion it again becomes manifest. Our present knowledge does not enable us to conceive it as anything but motion during its latent stage. If it is not motion, we must at once abandon the attempt to conceive it. We must invoke the inconceivable in general to escape from the inconceivable in particular, a course which may, indeed, be more consistent than it at first appears to be, but can scarcely be a step in useful thought.

Accepting the conception, how does it affect the aspect of the process of muscular contraction? Muscular contraction is a shortening of the muscular fibres and increase in their width. The two are one process. Increase in width is manifestly the result of a movement of the atoms, so that they come to occupy, in considerable proportion, a transverse instead of a longitudinal relation. But in this change of shape and change of relation there is an escape of atoms from the muscle—of the atoms that unite with oxygen and pass away—and there is also the escape of what we may call "submolecules," which pass away as the more complex products of muscular action. It seems impossible to dissociate the two—change of shape and escape of atoms. The atoms can only pass away at the surface by a lateral movement such as is involved in the increased width. It seems reasonable to associate this transverse lateral movement with the peculiar structure of the fibres which we recognise in their general aspect as "transverse striation." The released atoms escape laterally, and the fibre widens. This change follows the reception of an additional amount of energy, which we call the stimulus that excites contraction. Normally it is nerve energy, but it may be some other form of energy—electricity, for instance. We shall see presently that we must consider nerve force to be a variety of motion, and such also we conceive electricity to be. Every "stimulus" which excites the release of latent chemical energy in muscular contraction can be discerned to be added motion, just as in inorganic substances. The stimulus being conceived as motion and as added to motion, the effect is like that which makes a fire burn or gunpowder explode. As the lighted coal goes on burning because the released motion of heat acts as a stimulus to the adjacent molecules, increasing their motion so as to release them, so the released motion in muscular contraction acts as a stimulus which is propagated along the fibre. It is propagated with great rapidity, comparable indeed to that which occurs in a gas or explosive substance. The conditions that determine the rapidity we cannot discern, but we shall have to note their influence in the case of nerve energy. However, we should note also this marvel, that the influence thus transmitted along the fibre is throughout its length proportioned to the initial change—that is, to the stimulus which excites it.

The accession of the additional motion of the stimulus is not followed *instantly* by the movement of the atoms that are released. There is a brief interval, during which there is a release of energy in the form of electricity and also in the form of heat. Then follows the movement of the atoms.[6] When that movement begins, the release of the other forms of energy ceases. On the theory I have advanced it would seem that the atoms, being released from the attraction by which they were before held in consequence of the added motion, yield to the attraction of the extraneous atoms of oxygen. These are necessarily chiefly at the exterior of the fibre or fibril. Yielding to the attraction, they move in a uniform direction, and by this movement the previous oscillatory motion is combined and made uniform, and thus is changed into massive motion, and the energy is released as "contraction"; but before the movement begins, before the released motion is thus combined, some of it escapes as heat and electricity. Thus the transformation of the minute motion into massive motion—that is, of the latent chemical energy into manifested energy by muscular contraction—is due to the fact that the motion of the released atoms is, by compulsion, uniform, and by uniformity that which would otherwise be irregular and inconspicuous is made conspicuous as the "kinetic" energy of motion. This movement of the atoms in one direction—that is to say, the lateral direction—is of course merely another form of stating the fact that the muscular fibre widens. To escape, the atoms *must* move transversely, and the widening or "contraction" implies this transverse movement. It seems, indeed, to be a movement of far more atoms and molecules than escape, but it is conceivable that the escape may involve a general momentary displacement in the same direction. We cannot, as I have said, help connecting the transverse movement with the peculiar visible structure of the muscular fibres which gives rise to their transverse striation. We have, indeed, a similar widening, and so a similar lateral movement, in the case of the unstriated muscular fibres, but atomic escape must be at the sides, and the absence of visible striation does not exclude a structure such as shall determine uniformity of movement. Remember the marvellous framework that has been discovered in the structure of even apparently simple cells, a framework of which no suspicion whatever has until lately been entertained.

To sum up what has been said, we cannot doubt the escape of the atoms. The transverse movement we cannot doubt. The release of energy we cannot doubt. Added motion is the common cause of these changes. The motion of latent chemical energy we conceive as restrained oscillation, fixed wave-motion. It is released so that there is a compelled correspondence in direction, and thus it becomes conspicuous motion. In mechanical devices for such a transformation, when they are simple, as in a gas-engine, we can discern the conditions for obtaining such correspondence by lessened resistance in one direction. In the muscle this condition may obtain, combined with the specific attraction of chemical affinity.

It has just been mentioned that the widening of the fibre seems to be far greater than can possibly be related to the outward passage of the escaping atoms, and of the complex "radicals" of the molecules or the submolecules which constitute the more complex products of contraction, and, indeed, its mere features suggest that there is a movement of molecules which afterwards resume their place. It seems conceivable that the attraction between the remaining molecules and those released may involve a movement to the limits of the range permitted by the force that restrains them, and their return by the influence of this, which is what we call elasticity. The nature of elasticity is, I doubt not, familiar to you. In every form, metallic or otherwise, we must conceive it as a capacity of movement of atoms or molecules away from each other within the limits of the force of attraction and of their return if unhindered. To bend a spring is precisely analogous to the elevation of a weight, only the attraction in the one case is molecular, in the other massive.

The time occupied by the process of contraction is brief. In a fraction of a second the original form of the muscle is resumed, and with this resumption there returns the capacity for

[4] I do not allude to the relations of nitrogen; all-important as they are, their consideration would make the subject needlessly complex, and the omission makes no difference to the argument.

[5] Other particulars will be found in full technical description, though without verbal recognition of the special theory here mentioned, in Vines' Lectures on Vegetable Physiology.

[6] According to the latest researches, the latent period is shorter than was formerly thought, and the release of other forms of energy coincides with the commencement of the muscular contraction, or with the end of the latent period. It does not, however, continue during the change of shape, and thus the reasoning in the text is not affected.

another similar contraction. Doubtless there remains after one contraction abundant capacity for another, but since this recurring sequence may go on for a very long time there must be constant renewal of the loss. We must assume that immediately after the release of atoms or submolecules, and of their motion, their place in the muscle is taken by other molecules derived from the abundant supply in the lymph, with an amount of inter-atomic motion similar to that of the molecules decomposed and removed and similarly available. It is difficult to conceive that such processes of what we call "disassimilation" and "assimilation" take place in so brief a space of time, yet the fact is certain. It is equally difficult to understand on any hypothesis. Indeed, it is over the border which limits the range of hypothesis. We cannot help seeing that which we cannot see through. Some of our most "stubborn facts" permit no light to reveal even the outline of that which is within them. Hence the first lesson of science is that we may not say "this cannot be," and I am inclined to think that the second lesson ought to be that we may not say it in words that seem to have a softer sense. The term "inconceivable" seems far less absolute than "impossible," and yet is often only a gentler way of conveying the same opinion. The rapidity with which the original form is resumed is the more marvellous when we realise that this suffices not only for release but also for renewal. The relation of the two is one of the most important facts for us to remember. The brevity of this process and the rapidity with which it passes along the fibre when excited at one part have important relations to nerve function, to which we next pass.

Yet one incidental consideration tempts me to turn aside for a moment. It is often said that protoplasmic substance has a property of contractility, a peculiar result of Life. This is regarded as the agency of muscular contraction. It is a vague conception, too vague indeed to be precisely stated by modern physiologists, who yet cannot escape from it. Indeed, from that which is embodied in the conception there can be no escape. Yet the literal meaning of the word "contraction," a drawing together in all directions, is scarcely now the sense in which we use it. In muscle there is only change of shape, not of size, and there is no real "drawing together." That which is certain in this case is probable in other instances in which the process can be discerned only imperfectly. We conceive that, alike in a muscle and in an amœba, the change is the result of some external stimulation. The stimulus must be a form of energy—that is, of motion. May the process not be the same in each case—simply a release of atoms and a movement of atoms, a release of motion and its manifestation by uniformity? If so, is it clear there is such a property as vital contractility as distinguished from the necessary effect of external motion on the atomic relations and change of form entailed? The variety in degree and in the character of the movement may seem to be incompatible with such an automatic mechanism, but we must remember how perfect is the relation in the degree of muscular contraction to that of the stimulus that excites it. This is true, moreover, of the effect propagated along the fibre, as it is of that which is the local result at the spot at which the stimulus directly acts.

(To be continued.)

THE ROYAL FREE HOSPITAL.—On Wednesday, Oct. 24th, the Lord Mayor, accompanied by the Lady Mayoress, inspected the new buildings of the Royal Free Hospital. The alterations provide much-needed accommodation for the resident staff, as well as changes for the better in the administrative offices, laundry, &c. The operating theatre also has been greatly improved, a mosaic floor having been laid down, and apparatus for sterilising instruments have been provided.

THE INSTITUTE OF CHEMISTRY.—At the examination in Practical Chemistry for admission to the membership of this institute—an examination now, we understand, recognised by the Government as a qualification for the post of Public Analyst—held at the laboratories at 30, Bloomsbury-square, from Oct. 9th to 12th, seventeen candidates presented themselves, of whom thirteen were successful—namely, W. H. Archdeacon, W. Barlow, L. E. Boole, F. H. Carr, M. E. Feilmann, B. Sc., E. Halliwell, E. S. Hanes, H. Hastings, P. H. Jones, W. T. Rigby, J. S. Robertson, E. T. Shelbourn, and W. Thomason.

AN ABSTRACT OF

The Promoter's Address,

Delivered at the Medical Graduation Ceremonial of Edinburgh University on Aug. 1st, 1894,

BY THOMAS R. FRASER, M.D., LL.D. EDIN., F.R.S.,

PROFESSOR OF MATERIA MEDICA AND OF CLINICAL MEDICINE IN THE UNIVERSITY OF EDINBURGH.

[PROFESSOR FRASER commenced by congratulating the graduates upon their various promotions, and Sir Thomas Grainger Stewart upon his well-merited honour, and then continued:]

It must always be with a grave responsibility that one of your teachers addresses you on an occasion so significant as the present. Freed from the restraints and pleasures of your student life, you are now about to enter upon your life-work with its unknown successes and vicissitudes. For this work you have received such preparation as we can give you in the sciences on which your art is founded and in your initiation into its practice. In both departments the University can claim much for its methods of teaching. At a time when the training of the practitioners of Great Britain was for the most part restricted within the limits of mere professionalism this University had widened the basis of education by requiring instruction in science as an antidote to the narrowing influence of a too restricted attention to purely professional subjects. The great value of this instruction as a preparatory intellectual training and as a means for elevating the standard of professional culture has now been fully acknowledged by its adoption both by the older and the newer universities, and, on the initiation of the General Medical Council, by all the medical licensing authorities of the kingdom. On the purely practical side of medical education Edinburgh has also been placed in an exceptional position of advantage. Early in the eighteenth century the genius of Cullen gave to practical medicine a philosophical interest which it has never lost in this University; but it was left to Bennett to inaugurate a system of instruction in clinical medicine, and to Syme one in clinical surgery, which exceeded in efficiency the teaching of these subjects elsewhere in Great Britain, and which their successors have done their best to improve. But, gentlemen, while much of your future depends upon the training you have undergone, much, even more, depends upon yourselves. It has been said that "Our bodies are our gardens to the which our wills are the gardeners, so that if we will plant nettles, or sow lettuce, set hyssop and weed up thyme, supply it with one gender of herbs or distract it with many, either to have it sterile with idleness or manured with industry, why, the corrigible authority of this lies in our wills." Assuming, as I confidently do, that you do not intend to sow nettles, but rather lettuce and thyme, so as to obtain in the future an abundant harvest of the necessaries, and even of the highest luxuries, of life, much still remains before that harvest can be garnered in its full expectation.

In that future, to which you are now being promoted, many of you will encounter the successes which we all hope for; and, however "spes incerta futuri" it is well that your first entrance into active life should be brightened and encouraged by the expectations that are so natural to youthful enthusiasm. We cannot all of us, unfortunately, realise our expectations. Too often

> The ample proposition that hope makes
> In all designs begun in earth below
> Fails in the promised largeness.

We can all, however, in whatever condition of life we are placed, derive the highest satisfaction and pleasure from endeavouring to realise the expectations of a life in which our ideal is the performance, to the best of our ability, of whatever duties may fall to us. And I do not know any duties from which this satisfaction can be obtained in a higher degree than those to which you are about to devote—I would almost say consecrate—yourselves. We are apt, indeed, when engrossed in the difficulties of our work, when our minds are fully occupied with the details of the means by which results are being obtained—we are apt to forget

that that work, in its successful and faithful performance, is one which not only confers great benefit upon our fellow creatures, but also is capable of affording to the doer some of the highest gratifications which humanity is entitled to expect. I am persuaded that you will acknowledge the truth of this when I remind you that your promotion places it in your power—indeed, makes it your imperative duty—to increase the happiness and usefulness of others by removing physical and mental disablement and distress, by conferring upon your country all the benefits that are implied in an improved sanitation, and by curing disease and thereby prolonging lives valuable to the possessors, and often even more valuable to others.

In reference to this word "cure" you will apprehend that it should not be used only in its restricted sense, as implying what is no doubt one of our highest functions, but which, in a great number of cases, still remains the mere aim and hope of medicine. In this restricted sense it is too often alone understood, and has thus become the foundation of the reproach that medicine is an uncertain art. No doubt the sciences on which its practice is based are not yet perfect, its principles do not always rest on established grounds, and we must in the meantime often trust to the uncertainties of empirical knowledge. Although these conditions do not justify the attachment of reproach to medicine any more than to other professions and occupations involving complicated circumstances, in which uncertainty is at least equally present, they should not be overlooked by us. While they should cause us to be modest in our pretensions and to avoid all self-satisfied ostentation, they should also lead us earnestly to recognise that on each the duty is incumbent of doing whatever he is able to do to advance knowledge and increase the resources of medicine. Above all, do not allow uncertainties and imperfections to lead to the adoption of an attitude of *laissez faire*, or, even worse, of cold scepticism on your part.

The word "cure" also implies the care, the charge, the oversight of patients. In this wider acceptation of the word, which covers also the narrower acceptation, your mission is actually to *cure* everyone who is placed under your professional charge. Even when you are unable entirely to overcome disease by your treatment you have still a useful and even a noble work to perform in skilfully applying the resources of your art to mitigate suffering and prolong life; and may all of you learn by the experience of faithfully and affectionately performed duty in conferring upon your patients the inestimable comforts of confidence in your capacity and of that encouragement in distress which can be obtained only from the visits of the practitioner skilful in resource and well informed of the condition of the sufferer.

[Professor Fraser then made some pregnant remarks on medical ethics, which brought him to the subject of charlatanism:]

It is, no doubt, in the department of therapeutics that shallow pretensions have for centuries been, and still continue to be, more boldly and skilfully advanced than in any other, not even excepting surgery. The reasons for this are not difficult to find. Suffering humanity is naturally anxious for relief, and only too prone to believe assertions dogmatically expressed and accompanied with explanations obscured by a bold misuse of scientific phraseology. These are, however, the artifices of mere charlatans; but I am not sure that our profession is altogether blameless in this matter. The keen competition and the desire for novelties, which remain as prevalent now as when the Athenians of old clamoured for new things and new doctrines, supply temptations the effect of which may not infrequently be observed in the application of electricity, galvanism, and massage to the treatment of many diseases; in the farce which is too frequently acted in enjoining a special diet as a means of bodily salvation; and in the readiness with which any new remedy at once becomes fashionable, provided its recommendation is accompanied with the assertion that its administration in a few cases was followed by the most marvellous benefits. It must be admitted that at no previous time in the history of medicine have the temptations been so powerful to yield to this form of professional charlatanism. The advance of organic chemistry has led to the production of an almost unlimited number of substances of complex constitution, and as probably no substance is incapable of producing some perturbation in the physiological conditions of the body, and thus of modifying some of the conditions of disease, it is not remarkable that enterprising commercial therapeutists should within the last two or three years have recommended to our notice more than a hundred new products, whose aggregate application, one would fancy, should already "have made nature immortal, and death play for lack of work." But, gentlemen, Shakespeare has said:

> O, mickle is the powerful grace that lies
> In herbs, plants, stones, and their true qualities.

Of how many of these substances can it be said that we know the true qualities? The determination of the mere action of any one of them would require at least six months' study by a skilled investigator.

[Professor Fraser then pointed out that it was specially unfortunate that this haste to use new remedies should constitute a conspicuous characteristic of modern medicine, when bacteriological and therapeutical research have recently done so much towards placing medicine upon a scientific basis.]

In former times, indeed, the relationship between science and medical practice was by no means so close as it has now become, nor had science sufficiently advanced to indicate many directions to which investigation could with advantage be actively prosecuted. These conditions no longer exist, and it has become evident that no university can now claim to be "a light of the world" unless it can abundantly produce, as well as burn, the oil which is required to dispel darkness. It has become evident that the time has come when our University should so far reorganise her system as to adopt the prosecution of research as a recognised part of her work. Impressed with these considerations, the Faculty of Medicine have, some months ago, prepared a scheme by which research work might be fostered in the laboratories of the University by the workers being freed from all pecuniary outlay. This has been followed by two important Draft Ordinances of the Universities Commission. The first of them contains the provision I have mentioned, and also gives powers for the foundation of research scholarships, to which stipends may be attached; the second Draft Ordinance increases still further the inducements for engaging in research by placing it within the reach of investigators to obtain the high degree of Doctor of Science as a reward for the diligent and successful prosecution of research. I do not think that the importance of these provisions can be exaggerated. They constitute the great Reform Bill of the University, overshadowing in their probable far-reaching effects the numerous changes in our University organisation which have succeeded each other during the last three years. That they have been so long delayed may, I think, be explained, not only by the reasons I have already stated, but also by the circumstances incidental to the lives of many of the professors in the Faculty of Medicine. One result of these circumstances has been that the duties imposed upon them, while in some of their aspects most pleasant and agreeable, are in others of them of an exacting nature. From early October until the beginning of August they are engaged, with almost no respite, in university duties. Beyond the imperfect hints obtained during conversation with visitors from other universities, and the imperfect indications derived from medical literature, no opportunity is given to them for learning what is being done elsewhere; and if in the two months of freedom from necessary work they strive to recruit their exhausted energies by travel in such foreign countries as can be visited during the tropical heat of autumn they find the doors of nearly all the seats of learning closed and their laboratories for the most part deserted. Some of us have had the rare opportunity of breaking through these restrictions, which are only too apt to engender a narrow provincialism, during the meeting in the spring of the last International Medical Congress. Italy, which a few centuries ago had enjoyed the reputation of being the great European centre of knowledge, whose universities of Salerno, Bologna, Pisa, Florence, and Naples became the models for similar institutions throughout Europe, and which possessed such teachers as Malpighi, Valsalva, Scarpa, Galvani, Fallopio, and Morgagni, had afterwards lapsed into a condition of scientific as well as of political inertness. We have, perhaps, been too apt to consider that this scientific inertness had not entirely been recovered from. The frequent recent publication of good work has not been altogether sufficient to remove this impression. A visit to the universities of Italy, therefore, comes on one almost as a revelation. Not only is there found great activity in teaching, with students of medicine in some cases even as numerous as those of Edinburgh, but also enthusiastic investigators, laboratories equipped by the State and by private generosity with every

requirement for research, and palatial hospitals—models for imitation in all that concerns the treatment of disease and the improvement of medical practice. Under such able workers as Duranti, Mosso, Baccelli, Bizzozero, Giacosa, Marchiafava, Semmola, Cantani, and many others, Italian medicine is striving, with already a large measure of success, to reproduce the traditions of her golden age.

[After enumerating the direction in which it was proposed to extend the more purely scientific medical education at the Edinburgh University by the formation of lectureships, and laying stress on the unique position of the University, as "the model for imitation in countries situated in four—or shall I say five continents of the world," Professor Fraser concluded as follows :]

Gentlemen, in the remarks I have made I have indicated a few of the satisfactions that you will derive from your future life and a few of the dangers that lie before you. Our profession offers to you opportunities for the highest intellectual and moral enjoyment. It will give to each of you these satisfactions and enjoyments, however lofty or however humble a position is occupied, if only the determination is formed to obtain them. If you should not succeed in realising all the expectations with which you enter upon your life-work, if you should not succeed in obtaining all that you desire, your truest wisdom, believe me, will be quickly to learn that there is much to be grateful for in what you have succeeded in obtaining ; for you will at least always have a noble profession, with never-failing interests and beneficent opportunities. I now most earnestly and cordially express the hope and wish that you may all fare well in your respective professional occupations.

An Address

ON THE

MODERN TREATMENT OF PULMONARY PHTHISIS.[1]

By C. THEODORE WILLIAMS,
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THE treatment of phthisis has undergone various changes during the past eighty years, changes by no means so sweeping and revolutionary as those of its pathology, and it is a hopeful sign of medical progress that during the last fifty years, whilst divergent and indeed antagonistic doctrines have successively prevailed as to the origin and nature of tubercle, the treatment of phthisis has been more steadily carried on on the same lines—viz., those of fortifying and sustaining the resisting power of the patient. In early days Laennec preached the specific nature of tubercle, and Broussais maintained its inflammatory origin, in which he was supported at a later date by Addison, Niemeyer, and others. Then came the experiments of Villemin, confirmed by those of Simon Marcet, Andrew Clark, and Lebert and Zablonus, which established the doctrine of the specific nature of tubercle, this again being apparently overthrown by the experiments of Burdon Sanderson, Wilson Fox, Cohnheim, and Fraenkel, who seem to have produced tuberculosis in animals by inoculation with non-tuberculous material ; but at a later date these results were proved to have been attained through the experiments being performed in a contaminated atmosphere, and similar experiments by Watson Cheyne and Dawson Williams, subsequently carried out in an aseptic atmosphere, failed to produce tuberculosis. Then came the wonderful discovery of the bacillus tuberculosis by Koch, which placed the specific character of the disease beyond all question and reduced all forms of tubercle to the same category. But Koch's brilliant discovery, whilst it has largely assisted diagnosis, cannot be said to have contributed much to the progress of treatment. It was the signal for an enthusiastic outburst of antiseptic or bacillicide measures. The unhappy phthisical patient was muzzled with antiseptic respirators, he was surrounded by antiseptic atmospheres, and he had to submit to what Daremberg terms "orgies of creasote and guaiacol." Antiseptics were injected hypodermically, antiseptics were administered per rectum, and all efforts short of destroying the patient were directed to slaughter the tubercle bacillus. But it must be admitted that it is one thing to arrest the spread or development of this bacillus in a test-tube or on a cultivation-plate, and another to attack it in the tissues of the delicate human body, where, except at a few exposed surfaces, such as the mouth or throat, it is out of reach of local manipulation. Many of the antiseptics used have not even the recommendation of having been proved to be fatal to the bacillus tuberculosis, but were tried on purely theoretical grounds. But, after all, supposing these means had succeeded in destroying the bacilli then present in the lungs, what was to prevent other tubercle bacilli in greater numbers from entering and falling on the soil (proved to be vulnerable), then settling and multiplying, and thus rendering the last state of that patient worse than the first? There is nowadays much discussion on the contagious nature of phthisis and the possibility of preventing much of the disease by notification and isolation, but, while it is our duty to disinfect and destroy the sputum and other secretions of phthisical patients which have been proved to be sources of danger, any complete system of isolation would be quite impossible in so common a malady, and, moreover, as the evidence for its necessity is very weak indeed, it would be uncalled-for and cruel.

The next event in the history of the treatment of phthisis was the employment of Koch's tuberculin injections, which turned out to be a failure, but from which many wholesome lessons may be learnt, one of which was that any treatment which promotes, not conservative, but destructive changes, as shown in breaking down of the lung tissue and its appearance on a large scale in the sputum, cannot be otherwise than detrimental to the patient, as the area of infection, instead of being limited, is thereby considerably widened. Another lesson was that certain morbid poisons possess a distinctly elective affinity for certain organs and appear to select old lesions in those organs. The quickness with which the lupus spots and tuberculous lesions in the lungs became the seat of active change was very remarkable, and the rapidity with which tuberculous masses of long standing broke down and cavities were formed was even more so.

Now, it seems to me that all these specific modes of treatment ignore one great factor—nay, the greatest factor of all—viz., the resisting power of the organism to disease, and it is to this that the physician should lend his aid and support ; for if his means are effectual he can ward off disease, or if a patient has already been attacked he can limit its inroads and possibly arrest it altogether. A glance at the history of the treatment of phthisis will show that whatever success has been attained has been achieved by strengthening and fortifying treatment, whether by diet, climate, or medicines, and not by so-called specific treatment. Life in the pure air, judicious exercise, a light nourishing dietary, and such aids as cod-liver oil and tonics have effected more than all the bacillicide treatment put together. But these all act on the old principle of helping nature to help herself against her foes and reducing the vulnerability of the patient to attack. Now what are the weapons of resistance with which nature works in the human body in dealing with invaders like the tubercle bacillus? On this point the brilliant researches of Metchnikoff, pursued for a long series of years, have thrown considerable light. It would appear that the invasion of any organism by microbes induces an afflux of leucocytes, or "phagocytes" as Metchnikoff terms them, to the invaded region, and these have the power to absorb bacilli, which are to be observed afterwards in their structures. The more malignant the bacillus the rarer its presence within the phagocyte. In some instances the phagocytes overwhelm the bacilli, in others the bacilli devour the phagocytes. There are two principal forms of phagocytes—viz., (1) the macrophagus, a large uninuclear leucocyte, generally of epithelial or endothelial origin, with a prominent nucleus, lobed or reniform, staining well with aniline dyes, and possessing much protoplasm and active amœboid movements ; and (2) the microphagus, a smaller form, also staining well, multinuclear, or with one nucleus in the process of breaking up. Both these have the power of devouring bacilli, but not always the same kind, and in some instances, as in the streptococci of erysipelas, after the microphagi have devoured these the microphagi themselves are again swallowed up by the macrophagi. This bactericidal action of phagocytes is often an instrument of defence, and in many cases

[1] Inaugural address delivered at the opening meeting of the Midland Medical Society at Birmingham on Nov. 1st, 1894.

is the cause of immunity to the individual. The intervention or the non intervention of the phagocytes seems to depend on their being attracted by some organisms and repelled by others, as they are described as having a positive chemiotaxis or attraction for certain kinds and a negative chemiotaxis or repulsion for others. Where negative chemiotaxis develops, the bacilli are unopposed and induce the death of their host. We must remember that Metchnikoff includes a great variety of cells in the phagocyte class—not only leucocytes of the blood, but both epithelioid and giant cells. He holds that tubercle is composed of a collection of phagocytes, mesodermic in origin, which move towards the spot where the tubercle bacilli are situate and englobe them; these phagocytes either remain epithelioid in type or are converted into giant cells, which may be regarded as a further attempt on the part of the organism to protect itself against bacillary attack. The mononuclear variety of phagocytes seem to have the greatest influence in bacillary destruction. Thus Metchnikoff tells us that after inoculating marmots with avian or human tubercle he observed a characteristic degeneration of the bacilli in the interior of the epithelioid and giant cells of these animals owing to their being but little susceptible to tuberculosis. The bacilli under the influence of these cells swell up and gradually lose their power of retaining colouring reagents. Sometimes the peripheral part, but more often the central part, of the bacillus is the first to lose its colouration. Later the bacillus becomes converted into a sausage-shaped body enclosing a very delicate canal, and the altered bacilli collect to form a conspicuous brownish mass resembling a fragment of amber. Metchnikoff remarks that these changes are never observed in artificial cultivations or anywhere outside the tuberculous cells. It is in diseases which possess a decidedly chronic development like tuberculosis and leprosy that the specific bacteria are most readily taken up by the phagocytes, and where at the seat of the disease we find great numbers of these phagocytes. The other side of the question is where the tubercle bacilli gain the ascendancy and destroy the phagocytes, either in the form of epithelioid or giant cells, as has been depicted by myself and others, where at the close of the battle no trace of cells remains, but the lines of distribution of their conquerors. Another destroyer of bacilli is the serum of certain animals, such as the rabbit, though the evidence of this bactericidal action is by no means so complete as that of phagocytosis; for though it has been demonstrated in test-tube experiments, the effects are much less marked in the experiments on living animals, and especially if the microbes have been closed in capsules of filter paper so that they may be acted on by the serum alone without the interference of the phagocytes, for most of the serum used for inoculation contains phagocytes. Metchnikoff thinks that the serum, though incapable of killing microbes, may dilute and destroy their toxines or poisonous secretions. A third method of destruction of the tubercle bacilli is to be seen in the process of fibrosis so largely present in chronic phthisis, though we must remember that the giant cells, which Metchnikoff claims as a form of phagocyte, often become converted into fibroid tissue, as Hamilton has well shown. In a lung from a case of fibroid phthisis there generally exists a dense fibroid tissue where all alveolar structure has disappeared, enclosing a few caseous nodules in which some tubercle bacilli may possibly be detected; but the fibroid tissue may be searched through and through for them, and always with a negative result. The striking way in which, after fibrosis has affected the walls of a cavity, the bacilli disappear from the tissue has been often noted by myself and others, and the inevitable conclusion seems to be that fibrosis is incompatible with bacillary life.

Such are the weapons used by nature to fight the battle of existence against so formidable an invader as the tubercle bacillus. In a well-organised, well-developed, and therefore well-protected individual the bacilli are overwhelmed by the afflux of phagocytes at the point of entry, and immunity is the result. In one of less defective power they may enter and be carried along by the lymphatics to the lymphatic glands, where they undergo digestion and destruction, for Hankin's researches have shown the secretions of these glands to have distinctly bactericidal properties. When, however, the tubercle bacilli gain an entrance and settle, and destroy the tissues, as in the case of the lung, the most that can be hoped for is either that the progress may be obstructed by fibrous growth—a truly pathological process—or that through developing and expanding the healthy, though often by no means adequately developed, lung in the neighbourhood pressure may be brought to bear on the diseased portion, inducing a drying process incompatible with bacillary life. This process is encouraged by living at high altitudes.

Reflecting on the above sketch of the elements of defence against tuberculous attack, it would seem that the problem of treatment resolves itself principally into means to increase the number and activity of the phagocytes and thus render more probable the destruction of the tubercle bacilli. Moreover, whatever improves the quality of these phagocytes would also improve and enrich the blood and lymph serum, of which they form a principal part. The third factor, fibrosis of the lung, supervenes in a large proportion of cases, but it is difficult to say its growth is promoted; my impression is that the breaking down of lung tissue and the rapid evacuations of tuberculous material from that organ hasten its spread. To this conclusion I was led by careful examination of the Koch treatment cases, where tuberculous masses broke down, and were evacuated more rapidly than is the rule in chronic phthisis and lung fibrosis, causing contraction of the thoracic walls, and displacement of organs supervened. Besides this problem there is another which it is desirable to keep in view. While the use of purely bactericidal agents is not urged, partly on account of their inefficiency and partly because they sometimes injure the patient, there is no reason why we should not surround the patient with those natural agencies which have been shown to be highly unfavourable to bacterial life. These are sunlight and fresh air. Ransome and Delépine's[2] experiments on the conditions which modify the virulence of the tubercle bacillus showed that this virulence was reduced by exposure to daylight and fresh air and was rapidly lost. But to return to the first problem, How can we promote the formation of lymph and of blood rich in leucocytes? All experience teaches that a large quantity of oleaginous food supplied under conditions which promote its absorption and assimilation is the surest method, and among this class cod-liver oil is preëminent on account of its penetrative power and the ease with which, with pancreatic juice, it forms a rich emulsion capable of absorption. It is probably this which has caused cod-liver oil to do so much good in the treatment of phthisis; and when we reflect on the number of poor phthisical patients, as seen in the out-patient departments of hospitals, who enjoy no advantages of climate, whose surroundings are the reverse of sanitary, whose food is scanty, and whose trade or occupation is by no means salubrious, who yet hold their own by steadily persevering for months and years with cod-liver oil, it must be admitted that it does in some subtle way supply the requisite nourishment and augment the resisting force of the system; the diminution of the usual phthisical symptoms and the rapid gain of weight and strength confirm this. With regard to substitutes for cod-liver oil—and they are legion—I have given a fair trial to most of them, and have not yet found any at all comparable; but the combination of the oil with the preparations of hypophosphites and preparations of phosphorus and arsenic have proved very useful. The introduction of a large amount of milk into the dietary is to be aimed at. If cow's milk, however, fails, ass's and goat's milk should be tried, which are more easily assimilable; or if these are not available, by peptonising or preparing cow's milk it is rendered more easily digested. In some cases koumiss and kéfir will, for a time at any rate, supply the patient with what is required. It is a curious fact that although wasting is the leading feature of this affection, there are few patients who so readily gain weight as phthisical subjects when secured from over-exertion and supplied with appropriate food. At the Hospital for Consumption and Diseases of the Chest, Brompton, it is no rare occurrence to see patients suffering from acute and advancing tuberculous disease, characterised by high afternoon temperatures, nevertheless gain weight owing to the large amount of suitable food taken. In phthisis gain of weight is by no means incompatible with progress of disease: all it signifies is maintenance of appetite and the avoidance of exertion. But the most important factor in the system of treatment is pure air, and on its thorough application to the system of the patient most success depends. Sunshine and pure air are the best bacillicides. It must not be forgotten that it was the in-door occupations, like those of milliners, dressmakers, and tailors, formerly carried on in crowded, unventilated rooms,

[2] Proceedings of the Royal Society, vol. lvi.

which furnished the largest number of cases of phthisis. On the other hand, the wild tribes of the desert, living in tents like the Arabs, are exempt from the disease, but it was noted that when these were confined in French prisons they died of phthisis at the rate of 50 per cent.

Now in this country, though there is a great deal of talk about the virtue of fresh air, and boasting of going out in all weathers, in the case of invalids the doctrine of Mac Cormack and Henry Bennet is not carried out as thoroughly as it ought to be. A leaf might with advantage be taken out of the book of some of our Continental friends, and fearlessly trust phthisical patients to a little more open-air life than is at present done. Undoubtedly the treacherous climate of the British Isles, especially in winter and spring, is the great excuse. At most English health stations a wet or snowy day means confinement to the house, and generally to the fireside, for the whole twenty-four hours, the usual plea being the great tendency of phthisical patients to catch cold and contract fresh catarrh. When what goes on at Davos, St. Moritz, and Falkenstein is taken into consideration, the probability of catching cold, if ordinary precautions are taken, is very doubtful. At Davos and St. Moritz phthisical patients almost invariably sleep with open windows throughout the winter, when the thermometer not uncommonly registers – 4° F., or 36° below the freezing point, care of course being taken to heat the rooms with stoves, to provide plenty of blankets and coverlets, and to see that the current of external air is not directed on to the patient, but always first ascends to the ceiling. The universal testimony of medical men is to the effect that no harm, and much good, results from this practice. One effect is that patients accustom themselves to live at a lower temperature without noticing it. I remember a talented literary friend of mine who used to sit, sleep, and compose at Davos in a house of which the temperature did not exceed 40°, whilst his healthy, but unhappy, guest was sitting shivering at his side. A female patient at Davos in winter astonished me by undressing with the window open, snow lying deep on the ground at the time. I shut the window, which, I was informed, had been open for six weeks and without harm. But it is to the practice carried on by day at the sanitaria at Davos, Leysin, and Falkenstein that I would specially draw attention. At each of these places there are covered terraces or long sheltered corridors open on one side to the air and protected from wind, where a large number of phthisical patients in various stages of disease recline on couches for the greater part of the day in all weathers. These galleries are deep and lofty, sheltered from too much sun, and from rain and snow by curtains. The patients lie on well-cushioned basket work or bamboo couches, like the Japanese ones used at the Hospital for Consumption and Diseases of the Chest, Brompton, for from seven to ten hours daily, only leaving them for meals or exercise. In the winter there is no heating apparatus, and warmth is kept up by fur clothing and abundant covering. At Falkenstein, on the slopes of the Taunus, about 460 feet above sea level, this seems to be sufficient, and during a recent visit Dr. Hess, Dr. Dettweiler's assistant, informed me that hot bottles were rarely called for, but at Davos, where the temperature falls to 15° below freezing point in the shade, they frequently needed. The galleries generally face south and are at Falkenstein, from their horseshoe distribution, are complete suntraps on bright days, and here the invalids recline in all weathers, for they are not allowed to sit up, it being found more difficult to keep them warm in the sitting than in the recumbent position. Several of them told me that they felt the cold at first but soon got accustomed to it, and what they did dread were the white mists which prevail in autumn. Besides these terraces at Falkenstein there are a number of pavilions in the park-like gardens, some holding two or four invalids, which rotate so as always to ensure protection from wind and rain. The patients seem quite at their ease and may be seen reading, writing, knitting, playing cards and games all day. They can keep warm even at Davos, as I can testify having visited Dr. Turban's sanatorium on a hard frosty day in January, 1892, and purposely shaken hands with a number of invalids as they lay on their couches after sunset reading their books by lamplight. Their circulation seemed to be excellent. In these sanatoria this treatment is by no means confined to incipient cases or to those with limited lesions, but is ordered even to patients in a condition of great prostration and to well-marked pyrexial cases. Dettweiler holds that the open-air treatment is the best method of treating the pyrexia of phthisis and his plan is as follows :—After keeping a case of this kind in bed for a week, under diaphoretics and antipyretics, with cold water applications and dry rubbings, if the pyrexia does not abate the patient is placed under the open-air treatment, and this has the effect of gradually reducing the fever and improving the appetite and strength. The open-air treatment has been largely in vogue in Germany since the Franco-German war, when the treatment of fever and of surgical cases in tents and in more or less open sheds was found to be so satisfactory, and most of the new German and Swiss hospitals have covered balconies or galleries adjoining the wards, where the patients can be wheeled, and where they can lie in the open air for most of the day. The same is done in some of our English hospitals if, as at St. Thomas's Hospital, the construction admits of it.

The advantages of this treatment for those suffering from phthisis are obvious, as it means the complete application of the finest antiseptic in the world—fresh air—to the lungs and systems for most of the day ; but the objections are twofold. The recumbent position is not the best for expectoration, and where there are cavities and the power to expectorate is feeble there is some risk of fresh lung infection and the promotion of secondary cavities. This is met by adopting a position in which the head and shoulders are more or less raised, as is possible with most of the bamboo couches. Again, there are the want of exercise and the tendency to chilliness which such a practice involves. This is a point on which I differ from our German *confrères*, for, while they dwell on the importance of air, they do not attach sufficient importance to exercise, even in the initial lesions of phthisis. For the cases of consolidation or of excavation with pyrexia exercise is undesirable and a continuously recumbent position the best, but in cases of limited apical lesions and limited cavities without fever it is desirable for the patient to take as much exercise as his strength will permit in order to develop and extend the healthy portions of the lung and to increase the muscular power. This, however, need not prevent the patient from spending the resting times of the day in the recumbent position in the open air. Then the difficulty of carrying out this practice in London and Birmingham and other great cities is considerable on account of the smoke, and, in winter and autumn, of the fogs ; but there is no reason why it should not be tried more fully at our health resorts, like Ventnor and Bournemouth, Torquay and Hastings. The south coast sanatoria of England should, as Dr. Hermann Weber suggests, have covered terraces or balconies in which patients might lie on couches ; and in the numerous villa gardens of Bournemouth and Torquay convenient rotatory shelters, capable of being turned at will to keep out wind or rain, might be erected and the verandahs be more utilised.

And now I would close with a few remarks on treatment, suggested by thirty years' experience of the disease. Cough should always be treated by promoting expectoration, one of the best forms of expectorant being the effervescing carbonate of ammonia draught night and morning, which will generally clear the bronchial passages for several hours. If there be a good deal of fruitless hacking before expectoration, causing annoyance to the patient, the addition of a few minims of dilute hydrocyanic acid and half a drachm of syrup of poppy or codeia will do no harm and considerably allay the reflex irritation. Where the cavities are large, or deep, or basic, and consequently require great expiratory effort to clear, combinations of sal volatile and spirit of ether with camphor water, as in the form of the pharmacopœia of the Brompton Hospital, answer admirably, while for old or feeble persons champagne will often serve the same purpose. But the most satisfactory way to reduce the cough of chronic phthisis is by counter-irritation to the chest wall—best by blistering. It will be found that relief will follow in proportion to the amount of serum drawn by vesication, and fly blisters or acetum cantharidis, or the strong but very efficient liquor epispasticus, answer the purpose. Night sweats, when they are a mere flux from the vessels or lymphatics and not a relief of pyrexial processes, ought to be checked, and this can generally be done by arseniate of iron, $\frac{1}{8}$ gr. to $\frac{1}{4}$ gr., at bedtime, or picrotoxine, $\frac{1}{60}$ gr. to $\frac{1}{30}$ gr., or nitrate of pilocarpine, $\frac{1}{15}$ gr., or the old-fashioned oxide of zinc in from 3 gr. to 5 gr. doses, which generally succeed and do no harm. Preparations of belladonna and atropine, though they are effectual controllers of night sweats, are less satisfactory, because their continuance for a long period often induces dryness of throat and mouth, dilatation of the pupils, and disturbance of sight accommodation. The treatment of

pyrexia depends very much on its cause. Where it accompanies tuberculisation it probably will subside of itself when the tuberculous process quiesces, and even if persistent will only prevail in the afternoon. An effervescing saline, with a few drops of tincture of aconite or a few grains of quinine, is all that is then wanted. But pyrexia accompanying acute excavation, or acute excavation and tuberculisation, is very troublesome and sometimes quite intractable. Antipyretics, of which there are any number, according to my experience only give temporary relief, and often do harm by depressing the patient's constitutional powers and producing collapse. I have seen the temperature depressed from pyrexia to a subnormal reading by doses of antipyrin or phenacetin, but always with bad results, and after the use of the medicine has been omitted the temperature has risen as high as ever before. The great object in the treatment of this form of pyrexia is to keep the patient quiet in bed or lying on a couch, and, if possible, in the open air, *à la* Dettweiler; to feed him frequently; and to supply alcohol to repair tissue waste, while administering only sufficient antipyretics to keep the temperature within moderate bounds. Quinine in small doses in effervescence before the rise or during the rise of temperature will often suffice, or Henn's well-known pill twice a day. Anyone who studies the phenomena of fever knows that temperature rise is only a small portion of the process, and that by lowering the chart we do not get rid of the factors of heat production or of the wear and tear of the tissues, and so our best line is rather to keep up strength and weight by a frequent supply of food. The diarrhœa which accompanies tuberculous ulceration may be checked by sulphate of copper and opium if the ulcerative process be limited in extent, but if there is much ulceration, and it is the ileum and large intestine which are involved, injections are best. The enema opii of the British Pharmacopœia is excellent under these conditions, but I have seen a few of the most obstinate cases yield to large injections of linseed tea, which has a most soothing influence on the irritable ulcers.

ON THE IMPROBABILITY OF A PARASITIC ORIGIN OF MALIGNANT DISEASE.[1]

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(Concluded from p. 679.)

THE considerations advanced in the last three papers describing some of the obstacles to a belief in the parasitic nature of cancer would, of course, fall to the ground if such parasites could be found and demonstrated in every malignant tumour and in no other position, and if they could at the same time be proved to be not merely creatures invading and living in previously diseased tissue, but parasites which had attacked a healthy part and converted its elements into malignant structure. Now certain observers have announced at various times during the last five or six years that they have, under high powers of the microscope, discovered, embedded in the cells of cancer, the particular coccidium, which they believed to be productive of malignancy. The somewhat curious history of these microscopic "finds" is of such interest in connexion with this subject that a short and condensed review of the last few years' work must be given. Malassez[2] in 1889 was, I believe, the first to strike the note of these alleged discoveries; he was closely followed by Albarran[3] and Thoma.[4] In 1890 Sjobring[5] and Russell[6] found certain bodies they described as the causal parasites of cancer. About eighteen months later Soudakewitch,[7] Podwyszki,[8] and Sawtchenko,[9] afterwards Foa,[10] Adamkiewicz,[11] Cattle of Nottingham,[12] L. Pfeiffer,[13] and Jackson Clarke,[14] have all described the alleged specific parasite. Dr. Korotneff, indeed, has not only described but figured what looks in his plates a very large creature, which he names "rhopalocephalus carcinomatosus."[15] More important than these are the observations of Messrs. Ruffer, Walker, and Plimmer,[16] of which more must by-and-bye be said. Some of the above-named have gone even further, claiming to have found the young of coccidia—that is to say, the falciform bodies which are the result—in quantity, the almost innumerable result—of one method in which the rabbit's coccidium oviforme generates. All this amounts to very strong evidence, the observers being all highly competent microscopists inspired with the greatest love of science and gifted with vast power of work. But the subject is fraught with very great difficulties. Such varieties of cell generation, endogenous by fission and mitosis, all frequently altered from the normal type, also many sorts of anomalous cell degenerations, invaginations, inclusions, aspects of partially completed phagocytosis, hypertrophy with chromatin changes of nuclei, and many other phenomena, occur so abundantly in cancer, especially if quickly growing, that the comprehension of many things that appear in the field of the microscope is exceedingly difficult, and often each one of several interpretations is open to many objections and various causes of doubt. Thus, some of the more cautious workers, like Steinhaus,[17] after describing certain appearances, have carefully avoided giving any opinion, at least at first, though a year later that scientist positively denies their relationship to parasites.[18] Others—for instance, MM. Borrel,[19] Duplay,[19] Cazin,[19] Cornil,[20] Fabre Domerque,[19] Le Dentu,[19] and others in France; Klebs,[21] Stroebe,[22] Schutz,[23] Ribbert,[24] Noeggerath,[25] and Virchow,[26] in Germany; Ballance, Shattock,[27] Sheridan, Delépine,[28] and more, in England; and Welch[29] in America—have refuted, some, the whole of the contention that the peculiar bodies found in cancer are parasitic, while others have fixed their attention on certain supposed finds, pointing them out as erroneous. Thus Russell's fuchsine bodies, Wickham and Darrier's psorosperms in Paget's disease, the supposed crescentic spores—in fact, every assertion, perhaps with one exception, as to parasitic life made by different observers, has been shortly afterwards ascribed by other not less skilled scientists to degenerations, keratosis, cell inclusions, &c. Even Metchnikoff, the eminent zoologist, whose leaning is decidedly towards the parasitism of cancer, asserts that the bodies seen by Soudakewitch, Podwyszoski, Stroebe, and Sawtschenko, and supposed by them to be the falciform spores of a sporozoon, are not really such, but are due to "chromatic degeneration of nuclei"; and, he adds, "they may be designated as pseudo-crescents, just as in cancers it is necessary to distinguish pseudo-coccidia so often confounded with formations really analogous to sporozoaria."[30] Dr. Sims Woodhead, whose scientific care and knowledge are indisputable, seems to have been led at one time to accept certain appearances shown by Mr. Jackson Clarke[31] as the spores of coccidia, but to have subsequently seen sufficient cause to withdraw this assent and to state that those objects were degenerated nuclei.

The exception above referred to as an allegation perhaps not yet contradicted is contained in the very important papers of Ruffer, Walker, and Plimmer.[32] These scientists begin by denying the parasitic signification of many previous "finds" believed by the observers to be coccidia, and by very restricted acceptance of some others. They then describe their own discovery in many carcinomata of certain bodies, which they take to be the sporozoa producing cancer, and which they frequently speak of undoubtingly as "the parasite." Certainly their contention gains great support when such authorities as Professor Metchnikoff and Dr. Sims Woodhead endorse the writers' views. Yet it may be submitted that something

[1] The previous papers appeared in THE LANCET of July 28th, Aug. 25th, and Sept. 22nd, 1894.
[2] Comptes Rendus de la Société de Biologie, 1889.
[3] Ibid. [4] Fortschritte der Medicin, 1889.
[5] Ibid., 1890. [6] Brit. Med. Jour., vol. ii. 1890.
[7] Annales de l'Institut de Pasteur, 1892. [8] Ibid.
[9] Centralblatt für Pathol., Anat., &c., 1892.
[10] Brit. Med. Jour., vol. i. 1893.
[11] Untersuchungen über den Krebs, 1893.
[12] Brit. Med. Jour., 1893, and Journal of Pathology and Bacteriology. 1894.
[13] Untersuchungen über den Krebs, und Zeitschrift für Hygiene, vol. iv.
[14] Pathological Society.
[15] Sporozoen als Krankheitserreger, von Dr. Alexis Korotneff. Berlin, 1893.
[16] Papers in Journal of Pathology and Bacteriology.
[17] Virchow's Archiv, vol. cxxvi. [18] Ibid., vol. cxxvii.
[19] La Semaine Médicale, 1891.
[20] Journal de l'Anat. et de Phys., 1891.
[21] Deutsche Med. Wochenschrift, 1890.
[22] Beiträge zur Pathol. Anat., 1891.
[23] Münchener Med. Wochenschrift, 1890.
[24] Deutsche Med. Wochenschrift, 1891.
[25] Bemerk. über Carcinom-Einschl., 1892.
[26] Virchow's Archiv, 1892: Note to Steinhaus' paper.
[27] Brit. Med. Jour., 1891.
[28] Transactions of the Pathological Society and International Congress of Hygiene, 1890. [29] Quoted by Noeggerath.
[30] Brit. Med. Jour., December, 1892.
[31] Pathological Society, THE LANCET, March 11th, 1893.
[32] Journal of Pathology and Bacteriology, vols. i. and ii.; and Transactions of the Pathological Society.

more than mere authoritative averment is required—some reason for such judgment, some indication as to what special quality distinguishes these little cells from many others, almost or quite identical, which from time to time have with equal assurance been erroneously described as "the cancer parasite." It is impossible to look at the plates illustrating the papers of Armand Ruffer and his collaborators without being struck by their great beauty; indeed, they form a sort of epoch in the art of representing histological and pathological sections, fixed, hardened, and stained in the newest manner. In the letterpress many directions are given as to the best way for the purpose of carrying out these procedures, for Armand Ruffer rightly says: "In all scientific questions the methods used are of the greatest importance, for a great deal in the recognition of these parasites depends on their staining reactions."[33] Nevertheless, their method, for instance, of hardening and of fixing was at one time "absolute alcohol, chiefly used for hardening. No advantage appeared to result from the use of sublimate."[34] Afterwards, "Given up alcohol because uncertain."[35] And used "concentrated aqueous solution of sublimate."[36] Yet the absolute conviction of finding the protozoon of malignancy is equal in all cases. The staining reactions of these bodies appear to be the only test relied on; it will have been noted that in a quotation from Professor Metchnikoff the word "pseudo-coccidia" was used, a term which shows that there are in cancers certain bodies so extremely like true coccidia as to be very easily mistaken. Ruffer and Plimmer give in the very beautiful plates above mentioned drawings of what they deem pseudo and of what they call true coccidia. The only difference, according to the plates and description, is a slight, very slight, variation in the staining. Fig. 3[37] and Fig. 51 both represent egg-shaped bodies within a cell, the shading of rotundity being beautifully given: the one, a little more stained than the other with hæmatoxylin and cochineal, has a slightly granular yellow nucleus (Fig. 3); the other has, in addition, a nucleolus which has responded to the hæmatoxylin (Fig. 51). The one is described as "the parasite," the other as "an invaginated cell identical with the parasite of Wickham." The reality, the reliability, of such distinction depends, therefore, on whether such slight difference in staining may be accepted as the one sole and sufficient witness. The manner in which animal cells of whatever kind accept different dyes very much depends on the mode and amount of their degeneration: those affected with keratosis react differently to those undergoing fatty changes or degradation of chromatin, decay of nucleus or nucleolus. Other more subtle changes seem to have an influence even larger than in the examples just cited—an influence, for instance (to refer again to the excellent plates) which absolutely changes the colour produced by the same treatment and dye. Thus, Figs. 1 to 5[38] are from a cancer of the stomach all hardened in alcohol and dyed with Ehrlich-Biondo stain. The general protoplasm of the cells, called by the writers "parasites," is blue in all; but let this be noted: the nucleus of all is rather dark-red. Figs. 7, 8, and 9 are also from a cancer of the stomach, hardened and stained as above. Now the nucleus of the first is blue, those of the other two are very light red. It might be supposed that too deep staining of Fig. 7 caused this difference, if Fig. 16 were left out of count. That figure is described as "two cancer cells joined together and distended by four huge parasites—*a*, *b*, *c*, *d*, nuclei of parasites"; *a* is light blue, *b* and *c* are dark blue, *d* is red.[39] Thus staining with one and the same reagent has on these bodies very different effects even in one and the same section. How, then, can so slight a difference—such, for instance, as that described in Figs. 3 and 51 of the later paper—be accepted as the distinguishing mark between a coccidium and an invaginated or keratosed cell? Surely before accepting these things decisively as "parasites" something more distinctive is wanted, especially as so many false trails have already been struck, as so many eminent histologists are highly sceptical, and as there was publicly made such a statement as this: "The other day he (Dr. Sims Woodhead) had received a note and a paper from Mr. Gustav Mann, assistant to the Professor of Physiology in the University of Edinburgh, certainly an expert in the preparation of histological specimens, both vegetable and animal, who pointed out that he had been able to demonstrate in many of his specimens nuclei which he could not distinguish from the parasitic protozoa of epithelial cells as described by Ruffer, Walker, and Galloway."[40] Moreover, in a case of fibrous thickening of the subperitoneal tissue, a thickening which he especially points out to be *inflammatory* and non-malignant, Dr. Hebb found, described, and figured bodies which are, as he says, identical with the "cancer parasites."

Still more antagonistic to the parasitic nature of these bodies is the fact that spores have never been seen. It has already been stated that the bodies described as such by Soudakewitch and some others (falciform bodies) are by Metchnikoff declared to be degenerated nuclei. The shuttle-shaped spores (pseudo-navicellæ) so frequent in sporozoic infection of animals have never been seen in cancer tissue. It has been endeavoured to account for this by supposing that the young of this supposed creature are formed elsewhere. If so, the life history is different to that of all those parasitic sporozoa which we know. In all these the spores are formed within the host, and the young after reaching a certain stage may leave their nursery habitat and complete their growth elsewhere. Thus, wherever sporozoa are really found, multitudes of the infant form and of the fecund prolific parents abound. Not so in carcinoma; every supposed find of psorosperms has been negatived.[41] Ruffer and Plimmer have indeed described "the phenomena of division of these parasites," but those phenomena differ in nowise from the direct division of tissue cells, while they are in many ways unlike what is observed in coccidian propagation. Moreover, the results of that described division are two globular or oval bodies, which is not the form under which young sporozoa seek and invade fresh hosts. Such could find no habitat. The bodies are unlike coccidia in everything except their form, and this they have in common with a hundred other simple cells. Such a creature, without movement and without progeny formed and completed within the tissue or organ, could not possibly invade large districts and constitute or produce an infiltrating neoplasm.

Here both time and space warn me to conclude; but because these four papers have been somewhat scattered I would wish to summarise the conclusions to which they point—viz.: However plausible be the analogies which some have sought to establish between carcinoma and the infectious granulomata; however probable the parasitic origin of malignancy may at first sight seem; yet closer investigation shows that those analogies are illusory, and that clinical, experimental, biological, and microscopic research all tend to and ultimately do lead away from that hypothesis, and towards its disproof. I would also point out that I have refrained from alluding to my own investigations and experiments, because the former would be quite as open to doubt as those of the authorities above named. The latter, like those of Messrs. Ballance and Shattock, have had uniformly negative results; I have therefore preferred, rather than bear witness, to sum up the evidence.

Wimpole-street, W.

[33] Transactions of the Pathological Society, vol. liv., pp. 210, 211.
[34] Journal of Pathology and Bacteriology, vol. i., p. 203.
[35] Ibid., p. 397.
[36] Transactions of the Pathological Society, vol. liv., p. 210.
[37] Journal of Pathology and Bacteriology, October, 1893.
[38] Ibid., vol. i., p. 198.
[39] The nucleus *b* is peculiar in form also.

[40] Dr. Sims Woodhead's remarks at the postponed discussion at the Pathological Society, March 7th, 1893.
[41] Pathological Society, March 7th, 1893.

ON THE OCCURRENCE OF DIPHTHERITIC PARALYSIS WITHOUT PREVIOUS FAUCIAL AFFECTION.

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THE experiments of Dr. Sidney Martin[1] prove beyond doubt that diphtheritic paralysis may be induced in animals by inoculation sub cutem of certain diphtherial products. Hence the belief that paralysis only follows diphtheria when the fauces have been affected is clearly a pathological heresy. Yet it must be admitted that clinical evidence is not so

[1] Goulstonian Lectures on the Chemical Pathology of Diphtheria compared with that of Anthrax, Infective Endocarditis, and Tetanus.—THE LANCET, March 26th and April 2nd and 9th, 1892.

strong against such heresy as might be expected; for in the majority of recorded cases in which paralysis has followed cutaneous diphtheria alone there is an element of doubt as to whether the fauces really remained unaffected throughout the illness. A sore-throat is often absolutely denied in undoubted cases of diphtheritic paralysis; but even severe faucial diphtheria may exist, not only in children, but also in adults, unknown to the patients, their friends, and perhaps also to their medical advisers, unless they look for it: so that the absence of a history of sore-throat is valueless negative evidence. The throats of sick children should always be examined, even when some obvious cause of illness is present.

The following case illustrates the possibility that sore-throat may be unrecognised in the course of cutaneous diphtheria. In July and August, 1891, a girl aged seven attended the Children's Hospital, Paddington-green, for a whitlow of the right little finger following a prick by a rusty nail. The whole surface of the finger became covered with a dense, white, adherent slough, which did not entirely disappear until a fortnight had elapsed. Whilst the finger was yet unhealed the child complained of sore-throat. The house surgeon's (Mr. H. L. Lack) suspicions of diphtheria were at once aroused, but although he examined the throat daily he was unable to find any trace of membrane. There was only congestion of the fauces, with slight tonsillar enlargement. In a few days the throat was well, and he concluded that the condition was due to simple pharyngitis. The girl ceased to attend, but in the following September she again came to the hospital with complete paralysis of the soft palate, strabismus, and loss of knee-jerks. She ultimately recovered. Had she been younger, neither complaint nor examination of the throat might have been made, and the case would have been regarded as one of paralysis following cutaneous diphtheria alone. An intercurrent throat affection may escape notice in cases of cutaneous or vulvar diphtheria, and the latter affections may be caused by inoculation from an unrecognised diphtheritic throat, for diphtheritic membrane does not always spread by direct continuity.

Nasal diphtheria is very common in children and may often escape recognition, for membrane is commonly absent from the fauces, although it may be found above the soft palate and in the posterior nares. Cadet de Gassicourt[2] relates the case of a boy aged three years and a half who had measles and broncho-pneumonia on Feb. 16th, 1884, with hoarseness, an irritating nasal discharge, and redness of the fauces, without membrane. On March 21st he developed paralysis of the soft palate, followed by *paralysie généralisée*, lasting four weeks. There can be little doubt that this was a case of nasal diphtheria in combination with measles. Cadet de Gassicourt quotes at length Boissarie's account of the mysterious epidemic of diphtheria at Paris in 1881. If accepted as correct, it would overthrow all notions that diphtheritic paralysis is a consequence of diphtheria, for Boissarie endeavours to show that paralysis of the soft palate and adjacent parts may actually be followed by "angine couenneuse." But the first case which he describes is sufficient to cast doubt upon the accuracy of his observations. A brigadier came to the hospital after three days' illness and was found to have a nasal voice, difficulty in swallowing, and regurgitation of fluids through the nose. No membrane was seen on the fauces at this time, but two days later they became covered with a thick layer. The suspicion is unavoidable that in this case membrane may have been present in the posterior nares from the first, and have spread thence to the fauces. For obvious reasons immobility and apparent paralysis of the soft palate with the other symptoms, are present in nasal diphtheria. Cadet de Gassicourt suggests that in some of Boissarie's cases the physicians may have omitted to examine the fauces with sufficient care; but his respect for his colleague leads him to make an exception in his case. Boissarie himself was suddenly seized by shivering, nausea, a sense of constriction in the throat, nasal voice, and albuminuria, followed later by defective vision and difficulty in walking. He does not say whether membrane existed in his throat or not, and Cadet de Gassicourt assumes that it was absent. Landouzy met with no instances of paralysis following diphtheria confined to the larynx, but Cadet de Gassicourt mentions three such cases.

Many cases of paralysis following simple cutaneous diphtheria have been reported. Roger[3] met with a child who had paralysis of the soft palate after diphtheria confined to the mastoid region and auditory meatus, and a second case in which paralysis of the soft palate followed cutaneous diphtheria without membranous exudation on the fauces. Sanne[4] gives an instance of general paralysis following diphtheritic inflammation of the umbilicus and external ear. Maingault[5] observed dysphagia, staggering gait, anæsthesia, and amaurosis after cutaneous diphtheria affecting the site of a blister applied for pneumonia. He does not say whether or not the palate was paralysed. Cadet de Gassicourt quotes similar cases from Trousseau, Guéneau de Mussy, and Barthez. Patterson[6] relates the case of a man who, after direct inoculation of his right forefinger, had no sore-throat, but was a month later attacked by right hemiplegia and then paralysis of all four limbs, but his palate and pharynx were unaffected. Rosenthal[7] thus describes the death of Griesinger: "A perityphlitic abscess was opened, and the wound subsequently became diphtheritic. After it had healed, widespread paralysis, affecting speech, deglutition, the limbs, and finally respiration, caused death on the seventieth day." In all these cases there is a possibility that a sore-throat may have been overlooked at some period of the illness, and may even have caused secondary affection of blisters and wounds. The evidence of such auto-inoculation rests on the non-continuity of membranous patches. If faucial diphtheria is sometimes difficult to recognise, still more so is cutaneous diphtheria. An external wound may not arouse suspicion as to its diphtheritic nature until the sore-throat has come and gone.

Vulvar diphtheria.—It might be expected that paralysis would be as common after vulvar as after faucial diphtheria. Yet there are few recorded cases. Dr. Gayton[8] says that of 2733 patients admitted to the North-west London Fever Hospital with diphtheria during six years only six cases have been genital. The explanation is not only that such cases are rare, but that they are often difficult to recognise, for, as in other cases, membrane may be absent, or at all events not seen. On Nov. 1st, 1890, a girl aged two years was admitted to the Children's Hospital, Paddington-green, under Dr. Sidney Phillips for vulvitis of six days' duration, said to be due to a fall. The vulva was much swollen, especially the right labium, which was as large as an egg, deeply congested, and extensively ulcerated. The ulceration and redness extended to the adjacent surfaces of the thighs, as far back as the anus. There was a copious purulent discharge, but no trace of membrane was seen at any time. There was much pain on micturition, and the urine contained albumen. By Nov. 10th the swelling had subsided, but there was still ulceration of the right labium, and the discharge persisted. On Dec. 3rd the vulva was much better; the albuminuria continued. There had been constant vomiting after food since Nov. 29th. The abdomen did not move on inspiration. The legs were flaccid, without voluntary movements. The knee-jerks which had been present on Nov. 17th were quite absent. On Dec. 4th deglutition was paralysed, and the child was fed with the nasal tube. The action of the diaphragm was very feeble. The respiration was sighing. The cough was weak, loose, and ineffectual, with moist râles in the throat and chest. The pulse was 140, weak, but regular. There was still occasional vomiting. The soft palate was never paralysed. The voice was weak and hoarse, but never nasal. The paralysis of deglutition, necessitating the use of the feeding-tube, continued until Dec. 16th, when it gradually disappeared. By the 31st the albuminuria had ceased, and the patient was sent to the convalescent home with no other symptom than loss of knee-jerks. The apparent absence of membrane in this case rendered the diagnosis obscure until the onset of paralysis proved the vulvitis to be diphtheritic. Throat affection may or may not have been present.

On Sept. 23rd, 1887, a child aged two was brought to me suffering from vulvitis of some days' duration. The labia were swollen as in the case first related, and on their inner surfaces were a number of shallow, grey, circular abrasions the size of a threepenny piece. There was a thick purulent discharge, but no membrane was to be seen. The condition

[2] Sur la Paralysie Diphthérique, 1884.

[3] Archives de Médecine, 1862.
[4] De la Diphthérie, 1877.
[5] Sur la Paralysie Diphthérique, 1860, Case 41.
[6] Medical Times, 1868, p. 838.
[7] Vol. ii., p. 149.
[8] THE LANCET, May 26th, 1894.

did not improve under treatment, and on Oct. 2nd the child died very suddenly from cardiac failure. I have no doubt now that this was a case of diphtheritic vulvitis, but I did not suspect it at the time and did not examine the throat.

From the considerations above it may be concluded that, although diphtheritic paralysis should follow diphtheritic inoculation elsewhere than in the fauces, yet clinical evidence does not strongly support this view, because diphtheria, both faucial and elsewhere, may pass unrecognised. Lastly may be added the possibility that diphtheritic paralysis itself may escape recognition. In a previous paper[9] I suggested that some cases of rapid death in children with symptoms of capillary bronchitis might be due to diphtheritic paralysis. In the present paper cases have been mentioned in which paralysis of the soft palate was absent. The cardinal symptom of diphtheritic paralysis is undoubtedly palatal paralysis. When present it at once attracts attention, and the diagnosis is easy. When absent it is otherwise. Fortunately its frequency is extreme. Gowers places it first among the list of symptoms. Maingault found it in 70 out of 90 cases. Landouzy accepted this percentage. Cadet de Gassicourt found paralysis limited to the soft palate and pharynx in 103 out of 108 cases; he mentions one case only in which the palate escaped. He agrees with Trousseau that paralysis after cutaneous diphtheria usually begins in the extremities, but may subsequently affect the soft palate. Magne[10] says that it is usually the first symptom, but sometimes follows paralysis of other muscular groups, and sometimes is absent altogether. Mansord[11] quotes cases from Roger,[12] Moynier,[13] Peraté,[14] and Loyauté[15] in which paralysis of other parts occurred without affection of the soft palate. Patterson's case[16] is another instance in point. The fact that the soft palate may escape is important, because it effectually disposes of the theory that diphtheritic paralysis is due to neuritis ascending to the medulla from the palatal nerves. It is still more important from a diagnostic point of view. This is a matter of little consequence to those who regard diphtheritic paralysis as a trivial and local complaint which almost invariably ends in recovery. But localised diphtheritic paralysis does not exist. In the simplest case, apparently confined to palate or ocular muscles, signs of widespread affection of the nervous system can always be found. The invariable absence of knee-jerks, which sooner or later obtains, is sufficient evidence of this, apart from the general weakness, lethargy, and apathy, the rapid pulse rate and sighing respiration during rest, and the loose, feeble cough which prevail. In children the various subjective sensations and sensory disturbances cannot be elicited as in adults, but the other symptoms may always be found. When paralysis of the soft palate is absent, they are still more likely to be ignored.

Cadet de Gassicourt remarks with unconscious irony that diphtheritic paralysis seems to be less frequent in London than in Paris; but in France the serious nature of the affection has long been recognised, whilst here, until recently, patients having recovered from diphtheria were dismissed without caution as to paralytic sequelæ, and such sequelæ were not considered to be sufficiently important to admit the patients to our hospital wards.

In the reports of fatal cases it is common to read daily observations on the patient's rolling gait, and to hear that he was sitting up in bed playing with toys or feeding himself at the time when the cardiac, pulmonary, or gastric crisis occurred. Were patients during the first few weeks of diphtheritic paralysis treated as those whose lives are in a balance, such fatalities might be less common, whilst the knowledge that they may occur would render the minor symptoms of diphtheritic paralysis less likely to escape recognition.

Postscript.—This paper was written *à propos* of a case published by Dr. Gayton in THE LANCET[17] "in order to qualify a statement recently made—viz., that diphtheritic paralysis does not follow except when the fauces have been previously affected."

Upper Berkeley-street, Portman-square, W.

[9] THE LANCET, April 18th and 25th, 1891.
[10] Des Paralysies Diphthériques, 1878, p. 7.
[11] De la Diphthérie Pharyngienne, 1874.
[12] Archives de Médecine, 1862.
[13] Gazette des Hôpitaux, 1859.
[14] Thèse de Paris, 1858.
[15] Thèse de Montpellier, 1836.
[16] Op. cit.
[17] THE LANCET, May 26th, 1894.

CASE OF DIPHTHERIA TREATED WITH ANTITOXIN.

BY A. MACGREGOR, M.D. ABERD.,
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I FIRST saw a boy aged ten years on Oct. 13th, and was told that he had not been well for two or three days, and had complained chiefly of his throat. I found the left tonsil covered with a greenish-grey membrane, and there was marked glandular enlargement at the angle of the jaw on the same side. I ordered fifteen minims of tincture of perchloride of iron to be taken every four hours and the throat to be brushed every hour alternately with boracic acid and glycerine (one drachm to one ounce) and strong Condy's fluid and water. Port wine and brandy were to be given freely. During the next two days the membrane continued to spread, until on Oct. 16th it covered the tonsil, half the pharynx, the soft palate, and the uvula. The patient's constitutional symptoms were also much more serious; the pulse was 120 and very feeble; the temperature was 99° F. The breathing was laboured, but there were no laryngeal symptoms, and the patient had absolutely no sleep for thirty-six hours and practically no nourishment or stimulant. His aspect and general condition indicated rapid collapse and death before many hours. I therefore determined to use antitoxin. My friend, Dr. John Gordon, who was fortunate in having obtained a supply (Schering's), very kindly placed it at my disposal. At 3.50 P.M. I injected fifteen minims into the muscles of the back. This was very soon followed by sleep; the patient was very distinctly more comfortable, and at 8 P.M. the pulse was 112 but improved in tone, and the temperature was 100·2°. The following are short daily notes of the case from this date:—"Oct. 17th, 9.30 A.M.: The patient had several short refreshing sleeps during the night. A large piece of membrane was expectorated at 3 A.M. He looks much fresher and clearer in complexion. The pulse is 100, and not quite so strong as last night, and the temperature 99·2°; the breathing is more comfortable; the membrane looks thinner and the throat less inflamed. At 10.25 A.M. fifteen minims were injected. At 4.15 P.M. the pulse was 92, regular, and of good volume and strength, and the temperature 99·6°; a large quantity of membrane has been expectorated, and he has slept frequently and comfortably since my last visit, but refuses nourishment and stimulants. 8.30 P.M.: The patient has slept steadily since my last visit; the pulse is 100, and the temperature 98·6°.—18th, 9.30 A.M.: He slept a great deal during last night; the temperature is 98° and the pulse 80, rather weak, and slightly irregular; the throat is steadily cleaning; he has taken no nourishment or stimulant since last night. At my visit he very unwillingly drank some brandy and milk. 8.30 P.M.: He slept well during the afternoon and has taken milk and brandy more willingly; membrane coming away freely, and glandular swelling is much less; the pulse is 100 and good, and the temperature 98·8°.—19th, 9.30 A.M.: He had a very good night, but has taken very little nourishment. At 8 A.M. a large piece of membrane was expectorated. The throat looks red and raw. He looks brighter and fresher, and says he feels much better. The pulse is 96, somewhat feeble and irregular, and the temperature is 98·6°. The glandular swelling is much less. At 9 P.M. the pulse was 92, slightly irregular, and the temperature 98·6°. He has slept a great deal since morning, and has taken much more nourishment.—20th: He slept steadily all through the night; he has taken nourishment and stimulants freely; he looks much better and now asks for food. Another large piece of membrane was expectorated, and the throat is now practically clean. The pulse is 88, the temperature 97·6°. 9.30 P.M.: The improvement is maintained. The patient has taken nourishment and stimulants freely, and slept a great deal during the day; the pulse is 88, somewhat irregular, and the temperature 99·1°.—21st: He has had a good night and swallows readily; the pulse is 92 slightly irregular, and the temperature 98·2°. At 8 P.M. the pulse was 100, regular and good, and the temperature 98°.—22nd: He slept fairly well last night and looks well; the temperature is 97·4°, and the pulse 76 and regular; evening temperature 98° and pulse 100, slightly irregular, but stronger.—23rd, 9.30 A.M.: The patient has had a restless night; he is not looking so well, but has taken nourishment and stimulants freely. The pulse is 80 and

irregular, and the temperature 97·8°; evening temperature 98°, and pulse 80 and intermittent. He was sick and vomited at 6 P.M. After a glycerine enema the bowels acted well.—24th, 9.30 A.M.: The patient has had a very restless night; he was sick again, and is more depressed; the pulse is 80, feeble, and irregular, and the temperature 98·4°. Food on being swallowed tends to come back through the nose. Ordered citrate of quinine and iron (five grains) and liquor strychniæ (two minims and a half) every eight hours. 8.30 P.M.: The pulse is 90, regular, and much more satisfactory than at morning visit; the temperature is 99°.—Oct. 26th: The patient has continued to improve and is now convalescent."

In future I shall not wait for the appearance of grave symptoms, but shall use antitoxin at once. The relief following the injection, and that so quickly, in the above case was most striking, and the result must be considered as unexpected, but most gratifying.

Union-street, Aberdeen.

REMOVAL OF LARGE NUMBERS OF NAILS &c. FROM THE STOMACH BY GASTROTOMY; RECOVERY.[1]

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THE following case seems worthy of record, not only on account of its extraordinary nature, but because of the result of the treatment adopted. For the history I am indebted to my friend Dr. Collier, with whom I saw the patient.

A thin, pale, and apparently intelligent girl ten years of age was seen by Dr. Collier on July 1st, 1894, on account of gradual failure of health and loss of flesh, with sickness and vomiting, the vomiting only having come on for the first time the previous day. The vomiting persisted in spite of treatment, and the abdominal pain was at times extremely severe. At first the vomited matter consisted of thin mucus with black specks of altered blood, but later much more blood was ejected. The patient gave no clue to the nature of her illness and bore her pain with great fortitude. She rapidly wasted and became attenuated to an extreme degree, as she was unable to take or retain any food. On Aug. 4th the first indication of the cause of her illness presented itself, as she vomited a garden nail 1⅝ in. in length, and on being questioned confessed to having swallowed five others. Examination of the abdomen revealed several hard masses in the left iliac region, which it was thought might be the nails in question enveloped in scybalous masses, but no tumour could be felt in the region of the stomach. On the 8th I saw the patient in consultation with Dr. Collier, and as the vomited matter contained so much blood it was thought that other nails must be present in the stomach, causing irritation; hence we considered that it would be advisable to perform gastrotomy. With the assistance of Dr. Collier, Dr. Buchanan, and Mr. Stanley Collier I opened the abdomen above the umbilicus by a 2½ in. incision in the course of the linea alba, when exploration with the finger revealed a hard mass lying at the back of the abdomen on the left of the spine, evidently within the stomach. On opening the stomach by an inch vertical incision the finger detected a large quantity of hardware, which was removed by means of forceps, the stomach at the end of the operation being apparently completely emptied. The foreign bodies consisted of forty-two cast-iron garden nails 1⅝ in. long, ninety-three brass and tin tacks from ½ in. to 1 in. long; twelve large nails, some brass-headed; three collar studs, one safety-pin, and one sewing-needle. The index finger was passed through the pylorus, and it was thought that one or more nails could be felt, but as Dr. Buchanan, who was administering the anæsthetic, said the pulse was exceedingly feeble—in fact, scarcely perceptible—it was felt desirable to bring the operation to a conclusion as quickly as possible. The opening in the abdomen was therefore closed by a continuous silk suture, which included all the coats, after which the serous surfaces were apposed by several Lembert's stitches, the parietal wound being brought together by a continuous suture for the peritoneum and aponeurosis and interrupted silkworm gut stitches for the skin. During the operation soiling of the peritoneum was prevented by sponge packing and by the edges of the stomach being held forward by forceps. Before commencing the operation the patient's pulse was rapid, and the child seemed ill fitted to bear a serious operation; but when she had been put into bed from the operating table the pulse was hardly perceptible. I, therefore, transfused several ounces of warm saline fluid, with immediate relief, and before leaving the house the pulse was 130 and distinctly perceptible. She was fed entirely by enemata for a week, and afterwards with soft and liquid food for some time. The day after the operation she vomited a small pin; on the following day three garden nails and two tacks, these probably having come from the duodenum; and on the third day a feather was vomited. After the 14th—i.e., the sixth day after operation—there was no more vomiting, and the patient began to regain strength. From the 10th to the 31st there were passed per anum at different times, embedded in hard fæcal matter, thirty garden nails, a piece of a needle, one stud, eight tacks, and a J pen. The wound healed by first intention, and there was no distension, rise of temperature, or other untoward symptom throughout the convalescence. On Sept. 3rd Dr. Collier wrote to me that, although the patient was very thin, she was taking food and was going out for walking exercise. After recovery the patient confessed to having begun to swallow nails as far back as Christmas, 1893, so that some of them must have been in the stomach and intestines for at least eight months.

From a subsequent letter in October I fear that, although well so far as the operation is concerned, the little patient retains her morbid appetite. Although gastrotomy is an ancient operation, there are, according to Greig Smith, only thirteen, or possibly fourteen, well authenticated cases recorded, these being given in the tables of Credé and Richardson and Bernays. With the exception of one fatal case reported in THE LANCET of Aug. 21st, 1894, I can find no other like this in the number and character of the objects removed. In the work on abdominal surgery previously referred to, the conditions mentioned as calling for gastrotomy are—(1) the presence of a foreign body in the stomach of such a nature that we know it cannot be passed except at great risk, and (2) the existence of serious and urgent symptoms. To these I would add a third—viz., the presence of a number of irritating foreign bodies which, though possibly capable of being passed individually, produce so much irritation collectively that their removal *per vias naturales* cannot be waited for. Under the third category would come the case here related. The following points are worth noting:—1. The curiously morbid appetite, amounting to monomania, in an apparently sane and intelligent child. 2. The obscurity of the symptoms until a clue was obtained by the vomited nail. 3. The recovery of the patient, although the lining of the stomach seemed so much injured by the foreign bodies, and although the child was so reduced at the time of operation. 4. The marked effect of transfusion of saline solution in combating shock, although no blood had been lost at the time of operation. The practical lesson to be derived from the above is that even in desperate cases such as the one related, where the patient was reduced to a condition of the most extreme weakness, it may be worth while, though apparently hopeless, to make an attempt to save life.

Park-square, Leeds.

[1] A paper read before the Leeds and West Riding Medico-Chirurgical Society, Oct. 19th, 1894.

A CASE OF ANKYLOSIS OF THE SPINE AND OBSCURE ENLARGEMENT OF THE RIGHT FOOT.

BY WILLIAM ERNEST MILES, F.R.C.S. ENG.,
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CASES of ankylosis of the spinal column *in toto* are fortunately uncommon, and when met with may be regarded as mere pathological curiosities, though interesting in the relation of cause and effect. The present case has for some time past been under the care of Mr. Stephen Paget, surgeon to the hospital, to whose courtesy and kindness I am

indebted for permission to publish these notes. The association of a peculiar enlargement of the right foot adds interest to the case; and though it has been shown by Mr. Paget at the Clinical and West London Medico-Chirurgical Societies, no satisfactory explanation as regards the pathological nature of the disease has as yet been forthcoming. The accompanying engravings (from photographs) admirably depict the peculiar attitude in which the patient holds himself in consequence of his deformity.

The patient, a man aged twenty-one years, holds himself very stiffly. The head is small and well shaped, and the face symmetrical.

Family history.—The patient's father is alive, aged fifty-two years; for the past five years he has had slight annual attacks

FIG. 1.

Anterior view.

of rheumatism, each attack lasting about a fortnight. The father's father also suffered from rheumatism. The mother is alive and strong, aged fifty-two years. She has never had rheumatism. The patient has five sisters and two brothers, all of whom are alive. He is fifth in the family. None of them has had any joint disease. There is no history of syphilis or phthisis in the family.

Past history.—The patient was strong and healthy as a child; he does not think he ever had measles or scarlet fever.

History.—When twelve years and a half old, whilst playing with his schoolfellows, he was thrown down and received a violent blow upon the back. He felt stiff in consequence for a few days, but was not in pain, and did not take any notice of it. Eight months later his head began to drop and he could not hold it up. He came to the Metropolitan Hospital and was treated for a stiff neck. His condition became worse, and as the wards of the hospital had not at that time been opened he was sent to St. Bartholomew's Hospital, where he was admitted under the care of Mr. Langton. He was kept in bed and a plaster jacket was applied from his armpits to his hips with a jurymast. He remained in the hospital for six weeks, and afterwards attended as an out-patient. He wore the jacket night and day for eighteen months, a fresh jacket being applied every three months. He never slept without the jacket, but used to unhook the chin strap at night. At the end of eighteen months the jacket was dispensed with; he says that his back was then as stiff as it is now, and has been so ever since

FIG. 2.

Posterior view.

He was unable to pick up anything from the floor without kneeling down. Six months after the jacket was taken off he went to work at a coal shop, carrying heavy loads (¼ to ½ cwt.) on his back, and shooting them down into cellars. He was quite able to do this, and did it for nine months; he then worked at a bottle factory, where he used to carry the bottles. He kept to this for two years and a half. His right foot then began to swell, and he came to the Metropolitan Hospital and was treated as an out-patient. The ankle-joint was thought to be diseased, so the foot was encased in plaster of Paris. He wore the plaster for a year, and in the meantime was able to get about on crutches.

Present condition.—There is general wasting of nearly all

the muscles of the body. This is especially well marked in the lower limbs. There is extreme stiffness, almost complete ankylosis of the whole spine from occiput to pelvis. He can only just move his head half an inch or an inch in any direction. The hand, when laid along the dorsal spine, can just detect movement, and no more. There is a very slight lateral curve of the mid-dorsal spine to the right. There is no angular curvature. Very extreme lordosis is present. The thorax is pulled forward, the sternum is sharply sloped downwards and forwards, the clavicles are large, prominent, strongly curved and tilted downwards and inwards; the scapulæ are winged. All the other joints of the body are freely movable. The arms are long and thin; they measure the same—from the deltoid tubercle to the outer condyle of the humerus 12 in., from the outer condyle to the tip of the styloid process of radius 10 in. The lower limbs are much wasted. The thighs, 8 in. above the upper border of the patella, measure the same—11½ in. in circumference. Other measurements are as follows: From the anterior superior spine of the ilium to the adductor tubercle, right 18½ in., left 20 in.; from the adductor tubercle to the tip of the internal malleolus, right 17 in., left 17½ in.; from the tip of the internal malleolus to the tip of the heel, right 3¾ in., left 3 in.; from the tip of the internal malleolus to the head of first metatarsal bone, right 5 in., left 5 in.; from one malleolus to the other, under the foot, right 7½ in., left 7 in.; girth of foot at the level of the tubercle of the scaphoid, right 11 in., left 10 in.; length of great toe from base of first phalanx to tip of toe, right 3 in., left 2¾ in. The right foot is very cold to the touch. It is pale, feels heavy, and solid, and does not pit on pressure. The whole foot seems to be enlarged. There is no loss of sensation in it. Patellar reflex normal on both sides. The contrast between the enlarged, shapeless foot and the wasted limb above it is very striking.

Remarks.—So far as the probable pathology of this curious condition of the spine is concerned, I think it will suffice to consider the effects of tuberculous disease, syphilis, and rheumatism. That the case was, in the first instance, regarded as one of tuberculous caries of the cervical spine is evidenced by the notes from the case-books at St. Bartholomew's Hospital.[1] That there may have existed a tuberculous caries limited to the cervical spine is quite within the bounds of possibility, but I do not think that this can account for the extensive ankylosis that now exists, for the following reasons: that at no time has the patient suffered from abscesses in connexion with his spine; that there is no irregularity of the spinous processes, with the exception of a slight lateral curvature in the mid-dorsal region; that there is no semblance of an angular curvature; and, lastly, that it is highly improbable that tubercle should affect the whole spine. Bearing these facts in mind, I do not think that tuberculous disease can in any way account for this ankylosis. Syphilis may in some instances result in spinal ankylosis, and I have in mind a case which was under the care of Mr. Howard Marsh, where, as the result of syphilis, a general ankylosis and curving forward of the whole spine resulted; but in the case we are now considering there is no history of a syphilitic taint either as regards the patient himself or his family. We have now only to consider rheumatism; in this case, it is true, there is a family history of rheumatism, but the patient himself has not had rheumatic fever, nor has he manifested symptoms of the disease in any other part of his body; moreover, it is scarcely conceivable that rheumatism should attack the spine so extensively to the exclusion of every other joint. The question now arises that if neither of these three most likely diseases can account for the ankylosis, to what is it due? I confess that the explanation is obscure, but I myself am of opinion that the rigidity of the spine has been brought about by the long-continued use of the poro-plastic jacket, and this view is supported by the fact that, prior to the wearing of the jacket, no rigidity, except in the cervical spine, existed. Upon the nature of the enlargement of the right foot I am unable to throw any light. When first seen it was thought to be due to tuberculous disease of the ankle-joint, but since the absolute rest enforced by the wearing of a plaster case for one year has not improved the condition I think we may safely conclude that it is not tuberculous. At any rate, there is no definite disease of the joint itself at the present time. The swelling is solid, cold to the feel, and is not œdematous, and so far as can be ascertained, the bones as well as the soft tissues participate in the morbid change. The large amount of wasting of the muscles of the right lower limb might suggest the possibility of a trophic lesion, but I think that this idea is discountenanced by the fact that there is no anomaly of sensation in the part, that the wasting is symmetrical, and that the knee-jerks are natural. Beyond this I can offer no explanation of the morbid condition.

Metropolitan Hospital.

[1] Taken from St. Bartholomew's Hospital case-books: "W. C——, thirteen years, admitted Colston Ward, July 9th, 1886, under care of Mr. Langton; discharged Aug. 30th, 1886. Caries of cervical spine of six months' duration. Head flexed on spine; hardly any movement. No abscess; no nervous symptoms. Fitted with jurymast and jacket. Went out improved."

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CYSTIC TUMOUR OF THE ANTERIOR NARES.

BY WM. ROBERTSON, M.D. GLASG.,

SURGEON TO THE THROAT AND EAR HOSPITAL, NEWCASTLE-ON-TYNE.

CYSTIC tumour of the anterior nares, which, as regards the nature of its contents, strongly resembles a ranula, has been referred to by various observers, notably, McBride and Herman Knapp. The former, in a paper, "Cysts of the Tonsils, Nose, Larynx, and Ear,"[1] refers to two such cases. Herman Knapp[2] gives an account of a case of his own, and also a report of a case of Cystic Tumour of the Floor of the Nose,[3] by John Dunn, M.D., Richmond, Va.[4] Henry Chatellier, in 1891,[5] described two cases (seen in 1888, one male and the other female) of the same character as "glandular retention cyst of the anterior part of the nasal fossæ." The case I have had under observation for more than two years is interesting from the fact that there has been a symmetrical development of the affection—one tumour under each ala nasi.

A woman thirty-six years of age consulted me two years ago for a swelling in the neighbourhood of the left nostril which had been in existence for eight years previously to a noticeable extent. No cause or injury for the appearance was forthcoming. At times the tension in the swelling would become aggravated, and the mass would swell and cause disfigurement of the left side of the face up to the eye. It caused obstruction of the left nostril. The tumour, which was smooth and tense to the touch, could be felt through the skin from the mouth and from within the left nostril, and was found to be freely movable and as large as a walnut. It elevated and distended the mucous membrane near the anterior end of the left inferior turbinal body. Guided by McBride's experience with his cases I made an incision (under chloroform) from the mouth over the prominent cyst wall and dissected the tumour out. So near did it lie under the mucous membrane of the floor of the nose that this was punctured, but with no unfavourable result. The wall of the cyst was so thin that when nearly dissected out it ruptured and allowed three drachms of yellow, viscid, sero-mucous fluid to escape. There was no further trouble, and the patient went home in the course of a day or two.

Having occasion the other day to see the patient, she drew my attention to a just perceptible swelling near the right wing of the nose, which to the touch resembled the cyst I removed two years before from the left wing. The latter is in every respect normal, no trace of any lesion being present. The tumour now existing on the right side is as large as a sparrow's egg, freely movable, tense, and round. As yet it causes very little disfigurement, but the patient asserts that it is growing.[6] There is no history of traumatism.

As regards the etiology of these somewhat rare tumours the writers above referred to are of opinion that they arise from the obstruction of a gland duct. The teeth in my case were bad, yet no connexion between these and the tumours

[1] Brit. Med. Jour., May 14th, 1892.
[2] Journal of Laryngology, &c., May, 1894.
[3] Archives of Otology, vol. xxiii.
[4] New York Medical Journal.
[5] Journal of Laryngology, &c., April, 1892.
[6] This other growth has since been removed, and was found to present characters similar to the previous cyst.

was observable, nor was there any connexion of the tumour with neighbouring parts. The best approach to these tumours is from the mouth, where an incision through the mucous membrane and submucous tissue exposes the light-coloured cyst wall, which can be further enucleated with scissors or the handle of a scapula. With the removal of the cyst treatment ends. Tapping the cyst, as McBride shows, is futile, while opening it up and packing with gauze are not only tedious, but painful. Out of the seven cases referred to six were females and one a male.

Osborne-road, Newcastle-on-Tyne.

OPERATION FOR REMOVING THE TONGUE.

BY EDWARD COTTERELL, F.R.C.S. ENG.,
SURGEON, CANCER HOSPITAL; SURGEON, TO OUT-PATIENTS, LONDON LOCK HOSPITAL, ETC.

IT may be taken as an established fact that to prevent the early recurrence of cancer it is best to remove thoroughly the lymphatic glands next to the disease. This is too rarely done in epithelioma of the tongue, and I am persuaded that the rapid recurrences one frequently meets with after excision of the tongue is due to neglecting to remove the submaxillary lymphatic glands. Of course, where the glands are enlarged at the time of the operation no surgeon I suppose would excise the tongue without at the same time removing these enlarged glands; but I am now referring to cases where the glands are not apparently involved. It has been my practice for some time now before removing the tongue to clear out each submaxillary space of all glands and ligature the lingual arteries, and I have been struck with the extreme frequency with which I have found the lymphatic glands diseased, although no enlargement was detected before the operation. It is extremely easy to clear out the submaxillary space by an incision similar to that employed for ligature of the lingual artery underneath the hyoglossus, but extending a little further backwards. It will be found convenient, after the flap is raised, to tie the facial artery just before it passes into the gland and when it emerges from it. The whole operation of removing the glands in both submaxillary spaces, tying the lingual arteries, and then removing the tongue, does not take any longer than excision of the tongue with scissors in the ordinary way. I claim for this operation all the advantages to the surgeon as when the lingual arteries are tied as a preliminary, and, besides, there is greater security for the patient against recurrence. The removal of the submaxillary salivary glands, in addition to the lymphatic, does away largely with the dribbling of saliva so distressing to the patient, and by their removal one can be certain that the lymphatic glands are thoroughly cleared away. I do not advocate this operation where the floor of the mouth is extensively involved, as I think Kocher's operation the best one for that condition; but where the tongue only appears to be involved this operation offers all the advantages, without the disadvantages, of Kocher's method.

West Halkin-street, Belgrave-square, W.

EXTENSIVE ULCER OF THE RIGHT LEG.

BY W. R. CULLING, L.R.C.P. EDIN.

A WOMAN twenty years of age, married four months, consulted me in August of this year regarding an ulcer of the right leg of six months' duration. On examination the ulcer extended over the whole of the posterior surface of the lower two-thirds of the thigh and more than half of the leg. Its length was fourteen inches and breadth six inches. She had never shown it to any medical man, but from its origin, a small spot the size of a pea at the back of the knee, which itched so that she scratched, it extended to the above dimensions. She had treated herself internally with a blood mixture and externally with vaseline. It seems almost incredible that a respectable young woman living in London, finding her leg get worse daily, should for so long a period attend to herself without consulting a medical man, and then only when permanently crippled, to say nothing of the cicatrix. I have seen several severe cases caused by parents treating their helpless offspring; but this is the worst case I ever met with as the result of a patient experimenting upon herself. She has progressed favourably.

Jermyn-street, S.W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

A CASE OF INJURY TO THE SPINAL CORD.

(Under the care of Mr. MANSELL MOULLIN.)

THERE must always be a considerable amount of conjecture as to the exact extent of injury which a patient has received who presents the symptoms which are detailed below. There were no signs of fracture of the spine, and the symptoms did not show themselves in the way or in any order that is usual after intra-thecal hæmorrhage. Mr. Moullin considers that the immediate symptoms may be attributed in great measure to the shock which the nervous system had sustained. The hyperæsthesia and the irritability of the bladder and rectum were the natural outcome of the hyperæmia. The cord recovered its power of transmitting sensations in the course of a few days. Its reflex power returned, and, as so often happens when it is separated more or less completely from the rest of the central nervous system, many of the reflex actions were conspicuously exaggerated. The centres controlling the acts of micturition and defecation recovered, which seldom happens in man when the spinal cord is divided above them; but voluntary control was never regained, and the muscles wasted until they became mere cords, passing into a state of spastic rigidity as soon as they were touched, and standing out beneath flabby folds of harsh and roughened skin. Mr. Moullin also considers that it is very difficult to say whether there was any direct control over the bladder. His impression is that such was not the case. The patient could accelerate but not postpone the act of micturition. Usually the bladder emptied itself reflexly at somewhat short intervals. When the patient wished to urinate the abdominal muscles were not in action; a little urine was squeezed into the prostatic portion of the urethra, and micturition followed reflexly without his being able to check it. The paths down which voluntary impulses travel, the last to be developed, are the first to suffer and the last to be restored. Other parts of the cord may recover their function, but if these are once interrupted by injury (apart from shock) recovery, which is quite possible after section in the case of the lower animals, appears to be very rarely achieved in the case of man. The actual injury in the present instance must have been a very slight one, far slighter than occurs in fracture or dislocation, and the conditions were most favourable; yet the effects, so far as the conduction of voluntary impulses is concerned, have up to the present shown no sign of passing off.

A man thirty-four years of age was admitted into the London Hospital on April 30th, 1894. A few hours previously he had fallen down the hold of a ship, striking his back and doubling himself up in a position of extreme flexion. When extricated it was found that he was unable to stand and that the lower part of the body was paralysed. On admission he was suffering from shock, the temperature being only 96° F. and the pulse small, frequent, and very compressible. There was tenderness all down the spine from the mid-dorsal to the sacral region, but no irregularity, no crepitus, and no one point at which the pain was especially severe. Loss of power over the lower limbs was complete from the hips downwards. Sensation below the knees was very much impaired—practically lost, in fact; above the knees, on the front of the thighs, it improved rapidly until at the level of Scarpa's triangle it was almost perfect on the left side; on the right it was not quite so good. The abdominal muscles acted well. The plantar and cremasteric reflexes were present, but the knee-jerks could not be obtained. There was complete retention of urine, but no priapism. On the following day sensation had improved, and by the end of the fifth day it was normal so far as acuteness

was concerned, but still somewhat delayed. A few days later this too disappeared, and then at the end of a fortnight slight but evident hyperæsthesia set in. If the skin on the legs was touched the patient complained of pain, and a slight degree of warmth was described as burning. This continued for about ten days longer, when recovery appeared to be complete. The condition of the legs as regarded voluntary control remained unchanged. Twelve days after the accident reflex movements were noticed in the toes when the feet were uncovered, and these increased in intensity until, shortly before the patient was discharged, it was necessary to restrain the limbs by means of bandages. The muscles began to waste, spastic rigidity set in; the knee-jerks returned, and, like the other reflexes, became greatly exaggerated; there was very marked ankle-clonus, but there was no return of voluntary power. At first there was complete retention of urine. When the skin over the legs became hyperæsthetic this was followed by apparent incontinence, the bladder emptying itself involuntarily at short intervals; and about the same time defecation took place on several occasions involuntarily. Later, when the hyperæsthesia had passed away, control over the bladder was to some extent regained. It was not perfect, as the bladder required to be emptied more frequently than usual; but the urine could be retained for two or three hours and then passed at will. In this condition, as there was no further improvement at the end of some weeks, the patient was discharged.

Remarks by Mr. MANSELL MOULLIN.—This case derives what interest it possesses from the light that it throws upon the vexed question of the advisability of operating in cases of fracture of the spine with the view of releasing the spinal cord. That immense benefit may be derived from the operation when the cauda equina is involved there can be no doubt. I have published one instance[1] in which, though paraplegia was absolute before the operation, recovery was complete and immediate, with the exception of the peronei muscles on one side. But with the spinal cord it is different. In the present case it is practically certain that there was neither fracture nor dislocation. The accident was not of sufficient severity to cause an injury of this kind in the lumbar region, although it often does so in the lower cervical region. There was no deformity, crepitus, or localised pain. The ligaments that connect the arches and spines of the vertebræ may have been strained and perhaps torn off the bone though there was no ecchymosis or other evidence that this had happened; but, so far as the spinal column is concerned, it is practically certain that there was nothing worse. The tenderness, which was general over the whole lumbar and lower dorsal regions, not limited to or even most marked in the middle line, passed off in ten days. At the end of that time the patient could turn the upper part of his trunk over in bed without pain, and a few days later could raise himself without difficulty; yet there was complete and, it is to be feared, permanent loss of power over both lower extremities. It is probable that the cord was nipped by the flexion of the spine between the last dorsal and the first lumbar vertebræ. This fits in best both with the anatomical conditions and with the mechanical ones, for a strain when a rigid segment is joined to a more flexible one is always felt most severely at the seat of union. Had the force been greater, or the width and strength of the articulating surfaces less, the upper segment would have been driven forwards upon the lower. The symptoms were immediate, and the loss of motion and sensation did not extend upwards by degrees, so that in all probability they were not caused by hæmorrhage into the theca. The cord was simply bruised at the time of the accident; there was no pressure upon it afterwards, and recovery, if recovery from bruising and laceration is possible in the human spinal cord, should have taken place. There was everything to favour it.

SUNDERLAND INFIRMARY.

RUPTURE OF MALE BLADDER SUCCESSFULLY TREATED BY ABDOMINAL SECTION AND SUTURE.

(Under the care of Dr. JAMES MURPHY.)

THE contrast presented in the treatment of intra-peritoneal rupture of the bladder as carried out a few years ago and as it is presented by the following record is very great and shows an immense advance in surgery. Formerly this injury was treated on the expectant plan, and although the patient might linger for a few days death always ensued. Now, when the diagnosis has been made, if too long a time has not elapsed since the accident, laparotomy with suture of the bladder and thorough cleansing of the parts may be regarded as curative. By "thorough cleansing of the parts" we mean efficient washing out of all the peritoneum within reach with an aseptic solution by means of an irrigator or similar instrument—not simply the use of sponges. The application of sutures to the rent is sometimes a very difficult procedure, and was undoubtedly so in this case. We would especially draw attention to the additional method of diagnosis employed in this case. The injection of boracic solution into the bladder cannot possibly do any harm, and may prove beyond a doubt that there is a means of escape through the bladder wall into the peritoneum. This simple test as to the holding power of the bladder is not sufficiently dwelt upon in our text-books, nor is it used in practice with that frequency in doubtful cases that its usefulness merits. Dr. Murphy was fortunate in seeing his patient soon after the accident, but, speaking generally, the surgeon may retain hope of success even though the operation has been for some reason or other much delayed. Dr. Knight of Auckland saved a patient by operation although fifty-four hours intervened between the time of injury and that of the performance of the operation.

A man twenty-four years of age spent an hour or two on May 28th, 1894, in a public-house, during which time he drank some seven or eight gills of beer; he then felt a desire to pass urine and left the public-house to proceed to a urinal round the corner. Just as he got outside the door a runaway horse and cab struck him against the wall and knocked him down. He was soon after admitted into the Sunderland Infirmary, and was seen by Dr. Murphy some two hours after the accident. He was a man the very picture of health, good-tempered, docile, and obedient. He did not complain much of pain, nor was he much collapsed. There was slight abrasion of the penis and lower portion of the abdomen; a catheter was passed and drew off about half an ounce of blood-stained fluid. Ten ounces of boracic acid solution were injected without giving much pain; about an ounce returned. On percussion there were distinct resonance above the pubes and distinct dulness in both flanks. In the left flank a distinct splash could be obtained. The diagnosis of ruptured bladder was complete. Abdominal section was at once performed, and on opening the peritoneum about forty ounces of fluid were removed. The bladder was found to have a tear in it going in a straight line from before backwards over the whole of its fundus—that is, the rupture extended from back to front over the whole surface of the bladder covered by the peritoneum, and even extended a little beyond that at each end. The peritoneum was stripped off the line of rupture for from one-eighth to one-quarter of an inch. An assistant, seizing each side of the ruptured bladder between his fingers and thumbs, drew it up, and, separating his hands, gave the operator room to work between them. With a small needle, curved on the flat and held in a needle-holder, a catgut suture was passed through the muscular wall of the bladder, beneath the peritoneum, or, rather, internally to it, as it was stripped off, the needle being introduced about one-eighth of an inch from the margin of the rupture and passed through the muscular coat as near as possible to, without penetrating, the mucous membrane. The needle was then removed from the handle and drawn through. After being replaced in the handle it was made to penetrate a corresponding point on the other side of the rupture, just outside the mucous membrane, and to pass through the muscular coat and emerge about one-eighth of an inch externally to the line of rupture. The ends of the ligature were then seized by Péan's forceps. In this manner three sutures were introduced as low down in the pelvis as possible, and then by using traction on these sutures it was possible, by pulling up the bladder, to pass two more sutures lower down. The rupture was closed by some fourteen or fifteen sutures passed in a similar manner. The sutures were knotted, and ten ounces of boracic acid lotion were injected into the bladder, which was found to be water-tight. The peritoneum was sutured over the rupture. The peritoneum was again washed out, a glass drainage-tube introduced into the pelvis, and the abdomen closed. The patient was moved to a private ward, and a No. 10 catheter passed into the bladder and secured. To the end of the catheter a piece of tubing was attached, which was brought

[1] THE LANCET, Feb. 13th, 1892.

out underneath the patient's thigh, raised between two pads, and the end of the tubing was placed in a large bottle underneath the bed in such a manner that the nurse could see that the urine was constantly flowing. The patient passed from fifty to seventy ounces of urine daily; for the first thirty-six hours it was blood-stained. The catheter was kept in for eight days; for the following two days the urine was drawn off by means of a catheter, and for the next four or five days he was told to pass his urine every three hours while he was awake. The drainage-tube in the abdomen was removed on the second day after the operation. The patient was kept in bed for fourteen days and was detained at the hospital for twenty-seven days. With the exception of a slight urethritis there was no drawback to his convalescence; he is now perfectly well, and his bladder can hold twenty ounces of urine, and possibly more if required.

Remarks by Dr. MURPHY.—I was fortunate in seeing this case within two hours after the accident. The diagnosis of ruptured bladder was certain. The mode of suture adopted was chosen because the rupture was fairly clean cut, and the bladder was very thick and muscular. I therefore brought the ruptured edges together directly, although hitherto the method of Lembert has been employed. I attach the greatest importance to having the bladder continuously drained by the catheter, so as to keep the ruptured surfaces at rest, and then dilating the bladder gradually at the end of a week by allowing a few ounces of urine to accumulate there. The patient resumed his occupation a few weeks after leaving the infirmary, has been at constant work ever since, and feels as well as he ever was.

COVENTRY AND WARWICKSHIRE HOSPITAL.

TRAUMATIC RUPTURE OF THE URETHRA; PERINEAL SECTION; A NEW METHOD OF FIXING THE CATHETER FROM THE PERINEUM.

(Under the care of Mr. ILIFFE).

THE following case of accident is recorded, not because of the recovery of the patient from the result of the severe injury—fracture of the pelvis with urethral rupture—but on account of the ingenious method of fixation adopted for the catheter. In very many instances the surgeon considers it best to employ catheters in the treatment of rupture of the urethra with or without perineal section. It is not advisable to retain a silver catheter in the bladder for too many days, as there is danger that the rigid instrument may produce ulceration where its point comes into contact with the bladder wall, and a softer catheter, if it can be introduced, is much more comfortable to the patient. It is not an uncommon experience in the use of ordinary methods of keeping catheters in position to find that the instrument has slipped out of the urethra owing to some incautious or involuntary movement of the patient, possibly at night. By the ingenious method employed in this case the patient may be allowed to turn in any direction without fear of such an occurrence, and the advantage to the patient in the way of comfort can with difficulty be over-estimated. As will be seen by the account, the stop can be easily inserted through a perineal wound. We are indebted to Mr. C. Hamilton Whiteford for the notes.

A healthy man aged forty was on Dec. 13th, 1893, hit on the left side of the pelvis by a buffer of a railway truck which threw him against a wall. On admission to the Coventry and Warwickshire Hospital he complained of severe pain in the hip and in the perineum. The left side of his pelvis could be rocked freely. Blood was oozing from the meatus urinarius, and the flow was increased by attempts to pass a catheter. A very fine silver catheter was passed with great difficulty, meeting with considerable obstruction three inches beyond the meatus and again at another point six inches further. He had passed urine half an hour before the accident. There were already some discolouration and swelling of the perineum. Being dissatisfied with such a small catheter as a means of preventing extravasation, chloroform was administered, and Mr. Whiteford performed perineal section. A No. 9 webbed catheter was passed into the upper urethra, and a No. 9 black olivary one passed from the wound along the lower urethra, and the two ends of the latter were tied, thus forming a hoop. The two joined ends being drawn to the meatus, the upper catheter was tied by a silk stitch to the adjacent portion of the hoop, thus fixing both catheters. This method of fixing the catheter was used for sixteen days, the catheters being withdrawn and washed every two or three days. On the seventeenth day a No. 11 Jacques' red rubber catheter was passed from the perineum along the upper and lower urethra and fixed with a stop from the perineum. A piece of wire a quarter the size of the lumen of the catheter was bent so as to consist of two arms slightly curved, the short one one-eighth of an inch long, the long one rather greater in length than the urethral opening. At right angles to these arms at their junction was a stem half an inch long, expanding into a short rounded handle. A minute puncture of the catheter was made at the point which would lie in the distal angle of the urethral incision. The stop was then inserted through the puncture, the long arm first into the proximal portion and the short arm into the distal; the catheter, being elastic, fitted closely round the stem. The catheter was then passed from the perineum along the two portions of the urethra, the handle of the stop projecting into the perineum for about three-quarters of an inch. The slipping forward of the catheter was checked by the stem of the stop, which catches in the distal angle of the urethral incision. The man made a prolonged but uninterrupted recovery. The highest temperature was 100·2° F. He has to walk with a stick, lameness having followed the pelvic injury. A catheter is passed occasionally, but the tendency to stricture is slight.

Remarks by Mr. C. HAMILTON WHITEFORD.—This method of fixation is very cleanly and dispenses with such cumbrous appliances as tapes, strapping, &c. To ensure the retention of the catheter, the long arm of the stop must be slightly longer than the urethral incision. A clip on the catheter beyond the meatus obviates any slipping backwards. The principle of fixation from the perineum could no doubt be applied to silver catheters; the use of a firm but not rigid catheter enables the instrument to be kept in continuously for a much longer period than if a silver one had been used—in this case for four weeks without the slightest discomfort. If necessary, a stylet, passed through the puncture for stop, can be used for introduction. The fixation with two catheters, done in the first instance, is useful on emergency. In this case, by working from the perineum, a No. 9 catheter was passed, where only a very fine silver one could be passed from the meatus. The stop I first used was made of galvanised iron by an ironmonger, but since then of silver as thin as was consistent with strength, the long arms being of different lengths, made for me by Messrs. Down Brothers.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Subdiaphragmatic Abscess communicating with Right Pleura successfully treated by Resection of Rib and Drainage.—Multiple Neuritis.—Poisoning by Chloral Hydrate.

AN ordinary meeting of this society was held on Oct. 26th, Mr. J. W. HULKE, President, being in the chair.

Dr. HECTOR MACKENZIE and Mr. F. C. ABBOTT communicated a case of Subdiaphragmatic Abscess communicating with the Right Pleura successfully treated by Resection of Rib and Drainage. The patient was a boy aged ten years who was admitted to St. Mary's Hospital after an illness of four weeks, the onset of which was sudden and was characterised by severe pain in the epigastrium and right hypochondrium, accompanied by vomiting. The pain had continued to be severe. About a week after the onset a swelling had been noticed in the epigastrium. When seen at the hospital there was a rounded and reddened swelling centrally situated in the epigastrium. The right side of the chest gave the physical signs of a pyo-pneumothorax. Moreover, it was evident that the epigastric swelling freely communicated with the right pleura; for it became much more prominent when the patient sat up or coughed, and then distinctly gave evidence of fluctuation. It was decided to drain the subdiaphragmatic abscess and the empyema by a single opening in the pleura. On the second day after admission a portion of the sixth rib was resected just behind the mid-axillary line. Thirty ounces of exceedingly offensive thin

watery pus containing some flakes were evacuated. On exploring with the finger the upper surface of the liver was felt through an opening in the fore-part of the diaphragm. The whole cavity was well irrigated with warm boric acid lotion and a double drainage-tube inserted. The cavity was washed out daily, but the discharge continued to be offensive for several days. On the thirty-fifth day after the operation the wound was almost healed, and there was no discharge. The patient left the hospital cured on the forty-seventh day. The lung expanded well, and the only sign to be detected six months later was a slight relative dulness at the base of the affected side. The history of the illness pointed clearly to an abdominal origin. The presence of air as well as fluid and the fetor of the abscess pointed to the perforation of air-containing viscus. The most probable cause was the perforation of a gastric or duodenal ulcer, and although there had been none of the usual symptoms of the former it was not uncommon for these to be absent in cases which perforated.—The PRESIDENT regretted the absence of Dr. Cayley, who could have given to the meeting the details of a somewhat similar case under his care in the Middlesex Hospital in the early part of the present year. The patient was a boy aged about thirteen years, who was admitted into the hospital with the signs of empyema in the right chest. The liver was displaced downwards, and the diagnosis made by Dr. Cayley was empyema consecutive on perforation of the diaphragm by abscess originating below this—perhaps from perforative ulcer of the duodenum. A free opening was made into the right chest very low down, giving escape to a large quantity of fetid pus, after the escape of which an opening was apparent in the diaphragm near its attached border, through which pus was observed oozing up from the abdominal cavity. Drainage-tubes were placed in the subpleural abscess space and in the pleural sac. The lung afterwards expanded, and the boy made a good recovery.—Mr. F. C. ABBOTT said that he had made the opening through the ribs, as he hoped by this method to get better drainage. He did not pass a drainage-tube through into the abdomen, as the communication with the pleura was so very free. The majority of perforating ulcers associated with subphrenic abscess resulted from perforations into the lesser sac of the peritoneum, and they tended to point towards the left pleura; but in one half of the cases recorded by Drs. Penrose and Lee Dickinson the subphrenic abscess was bounded on the right by the falciform ligament of the liver, below by adhesions between the liver and stomach, to the left by the spleen, and above by the diaphragm; an abscess in this situation would tend to point towards the right pleura. He advocated the opening of such abscesses by resection of a rib, even if no communication with the pleura previously existed. The drainage established in this manner was better than that obtained by opening the abdomen in the mid-line.—Dr. SAMUEL WEST related a case of old abscess which had been previously treated in India. The patient presented himself at St. Bartholomew's Hospital stating that he thought that he was suffering from a return of his trouble. There was found on examination considerable enlargement of the liver downwards, and there was dulness in the chest. A few days later the man spat up pus through the lung, and he recovered in the course of a week or a fortnight. He believed that this was a rare instance of spontaneous resolution of a subphrenic abscess. He had seen two cases in which the abscess was on the right side and appeared to be connected with ulcer of the duodenum; they both ended fatally from pyæmia. In another case an abscess presented in the upper part of the epigastrium; a large amount of pus was evacuated, and a drainage-tube from eight to ten inches long was passed into the cavity and brought out at the back beside the spine. That case ultimately recovered. One would believe from physiological teaching that if the pleura were opened at all freely the lung would contract and not expand to cover the opening, as had been stated by one of the contributors of the case. He referred to a case which had been recorded in which a hepatic abscess was deliberately opened and drained by an incision through both layers of the pleura and the patient made a rapid recovery.—Mr. GOULD remarked that an abscess in the pleura often did not possess a large communication with the subphrenic portion, and many patients suffering from subphrenic abscess died before empyema was formed. He referred to the case of a young woman admitted into "Friedenheim," who was said to be suffering from sarcoma of the liver. There was a swelling in the lower part of the chest and upper part of the abdomen on the right side, a tympanitic percussion note extended upwards as high as the right third rib, and a "bell sound" was easily elicited over this area. The heart was beating far over in the left axilla, and the lower edge of the liver could be felt at the level of the umbilicus. The history was that for three years she had not been well, and six days before admission she was attacked by an acute illness like pneumonia. A gas-containing abscess situated below the diaphragm was diagnosed, an opening was made in the mid-line below the xiphoid, a suppurating hydatid cyst of the liver was found, and much pus and gas were evacuated. The heart afterwards returned to its position, and the right lung again expanded. He asked how it could be decided with certainty when pleuritic as well as abdominal fluid was present. He admitted that if he had operated through the pleura he might have obtained an equally good result, but it would have involved opening a healthy pleura and possibly infecting it with the decomposing pus.—Dr. LEE DICKINSON suggested that possibly the perforation was of the colon. The second recorded case, by the late Dr. C. J. B. Williams, of subphrenic abscess was caused by a perforation of the hepatic flexure of the colon. Duodenal ulcer was very rare in boys ten years of age.—Mr. BRUCE CLARKE said that he had opened a suppurating hydatid of the liver through the pleura with no untoward result whatever. These cases should be opened where they could be reached most easily.—Dr. MACKENZIE, in reply, said that there might have been an ulcer of the colon, but most of the recorded fatal cases were due to gastric or duodenal ulcer. It was often a matter of great difficulty to distinguish the presence of pyo-pneumothorax, but the physical signs in the case which he had related were such that they could not be mistaken. He was gratified to find that so successful a result had followed the opening through the pleura.

Dr. CHURTON (Leeds) read the notes of a case of Multiple Neuritis fatal on the fifth day. A rather fragile girl aged fourteen years, a year ago had choreic twitchings of the eyes, supposed to be due to imitation of a school friend. In June last the shoulders and head also became affected slightly. On July 26th she went to a school party, and was excited and tired; she afterwards walked two miles, and was quite exhausted. Next day she still felt tired, and had "pins and needles" in her fingers, and was unable to play the piano. On the 28th she staggered in walking. On the 29th she was in bed; she complained of pains in the calves and ankles. On the 30th she was seen by Mr. Martin (in the absence of Dr. Swann) of Batley, who found the temperature to be 103° F., and paralysis advancing. On the 31st, at 3 P.M., when Dr. Churton saw her, the calves of the legs were doubtfully tender, but the peronei muscles were decidedly so, and twisting of the foot inwards caused pain in them. The long extensors in the forearm were also tender. She had lost the use of her arms, legs, and trunk; there was absolute inability to turn in bed or to raise her head from the pillow. All reflexes, even the conjunctival, were abolished. Occasional choreic movements of the eyeballs and eyelids were noticed. There were frequent attacks of rapid breathing, and the heart's action was always rapid. The sterno-mastoid was very feeble, but the sphincters were normal. Replies to questions were rather languid, but sometimes she smiled; the intellect was normal. There was no loss of sensation, and no œdema. On Aug. 1st, at 1 P.M., she died without struggling for breath, apparently from cardiac failure; the pulse had become quicker, 160, and was very feeble earlier in the day. Analysis of the drinking water of the house showed 0·07 gr. of lead per gallon in the cold-water pipes and 0·308 gr. per gallon in the hot-water pipes. The patient had habitually, during two years, taken tea made with water from the latter. In the diagnosis the sensory symptoms distinguished the case from acute anterior poliomyelitis, and the order of invasion of the limbs, together with the same sensory symptoms, separated it from (pure) acute ascending paralysis.

Dr. R. J. COLENSO (introduced by Sir Dyce Duckworth) communicated a case of Poisoning by One Ounce of Chloral Hydrate, followed by recovery. The patient, a woman aged thirty-four years, deliberately took on Dec. 12th, 1893, one ounce of chloral hydrate in solution at 8 A.M. At 4 P.M. she was discovered in her bed unconscious. No ordinary rousing measures were of any avail. Medical aid was not procured till 5.30 P.M. The patient was found to be comatose, with abolition of all reflexes. The breathing was shallow and stertorous, the pupils were both small and very sluggish, the

pulse was 130, small, and rather firm, and the temperature 100·5° F. The nature of the poison taken was not discovered until about three hours subsequently. Atropine was given hypodermically, and the stomach washed out with much difficulty; the washings revealed nothing as to the poison taken. Strychnine with ether was next injected under the skin; the pulse began to fail, and the coma increased. Nitrite of amyl by inhalation had some good effect on the pulse; deglutition was very imperfect. Sir Dyce Duckworth saw the case at 10 P.M., and at this time a friend disclosed the fact that she had on the previous day bought two ounces of chloral for the patient to send to a friend in India. This could nowhere be found. Enemata of strong coffee were now given, and sinapisms applied to the thighs and legs. The patient was vigorously rubbed and slapped with towels. At midnight the temperature reached 103°, the pulse continued to flag, and the outlook became very bad. Enemata of coffee, milk, prepared beef essence, and brandy were continued, but not until 12.30 A.M. on Dec. 13th were any signs of animation manifested. Twitchings of the face and movements in the limbs were then observed. Groaning and restlessness began about 2 A.M., and the hypodermic use of strychnine was stopped. The patient cried out to be left alone and allowed to sleep but friction and rousing measures were continued until 3 A.M. Short intermissions were allowed and sleep for ten minutes at a time, and then the patient was taken from bed and made to walk about. The urine was drawn off by catheter early in the evening and was of dark colour. From 8 A.M. on Dec. 13th the patient slept thirteen hours and a half in the twenty-four. Recovery ensued, and the patient left her room on Jan. 7th, 1894. Muscular tone was much impaired for some time subsequently, as was the digestion. Periods of excitement alternating with great depression ensued for six weeks subsequently. The patient was a very powerful woman of large build and of good condition. Nine-tenths of a grain of strychnine were employed. The amount of chloral was accurately determined afterwards, the bottle being found, and a full confession of her conduct was made by the patient. An ounce of chloral hydrate dissolved in two fluid ounces of water was the exact dose. The satisfactory result in this case was doubtless due to the robust health and fine physique of the patient, and in no small degree to the persistent and energetic efforts made by a staff of intelligent assistants, who laboured for twelve hours to restore animation.—The PRESIDENT said that some years ago he had to deal with a somewhat similar case. He was called suddenly to attend a case of poisoning. He found a young woman in a comatose condition and breathing stertorously, with the respirations occasionally ceasing. The pupils were much contracted. Artificial respiration was resorted to and the stomach pump used. After the stomach had been well washed out a quantity of hot coffee was pumped into both the stomach and the rectum. She ultimately made a good recovery, and it was estimated that she had taken altogether about 320 grains of chloral.—Dr. HERRINGHAM inquired whether the urine gave a sugar reaction.—Dr. HALE WHITE asked how often the urine was examined for sugar, for this substance often appeared in the urine late after poisoning by chloral. It was remarkable that there were no gastro-intestinal symptoms and that the temperature rose so early.—Sir DYCE DUCKWORTH said that the evidence gradually accumulated to show that chloral was the poison taken. Recovery was to be attributed to the administration of strychnine and strong coffee, and rectal feeding, coupled with the fact that the patient was a strong muscular woman, and that a number of persons worked assiduously to bring her round.—Dr. COLENSO, in reply, said that the urine was tested once, and that then it contained no sugar. He gave a list of instances, which he had collected from medical literature, of large doses of chloral which had been given medicinally, chiefly in acute mania and in delirium tremens. In the case he had related the temperature did not fall until a day or two after the dose. The patient was at the present time in very good health and said that she had no recollection of having taken the poison.

MIDLAND MEDICAL SOCIETY.

Exhibition of Specimens and Cases.—Operations for Gall-stones.

A MEETING of this society was held at the Medical Institute, Birmingham, on Wednesday, Oct. 24th, the President, Mr. T. F. CHAVASSE, being in the chair.—Mr. BARLING showed a girl aged nine years as illustrating a mistake in diagnosis between Renal Stone with Perinephritic Abscess and Vertebral Osteitis. Five years previously she had suffered from an abscess in the right lumbar region, which burst spontaneously and never healed. The diagnosis made by the medical man at that time was disease of the spine, and the part was healed by Sayre's cases, with a window for the exit of pus. Mr. Barling on examining the child found a sinus in the mid-lumbar region, and on probing it a small gritty body could be detected. An incision was made, and a small renal calculus extracted. The sinus was now practically dry, and the urine, which had contained offensive pus, was now free from pus. Mr. Barling also showed a renal stone removed from a woman aged twenty-eight years who for twelve years had suffered from pain in the right loin, sickness, and occasional hæmaturia. The woman was referred to Mr. Barling for nephrorrhaphy, as the case was considered to be one of movable kidney; but the presence of blood-corpuscles in the urine and an acutely tender spot on percussion in the right loin led him to diagnose stone.—Mr. HASLAM exhibited a number of Gall-stones that he had successfully removed from the bladder and cystic duct of a woman aged forty-seven years. For the last two years she had had attacks of pain in the region of the liver, accompanied by slight and transient jaundice; but on two occasions within three months of her admission the pain had been very severe, and there had been vomiting and shivering, and the jaundice had lasted several days. A number of small stones were found lying in the gall-bladder, and the duct was completely blocked by a larger one, which was removed with difficulty. The patient made a rapid recovery and painless.—Dr. SHORT showed specimens from a Mediastinal Growth in a man aged fifty-nine years. The early signs and symptoms were those of pleurisy in the left side, and blood-stained serum was drawn off. The pain, dyspnœa, and emaciation continued, and the presence of a thoracic growth was diagnosed. Three weeks before death he developed paraplegia from pressure on the cord at the level of the tenth dorsal vertebra. The mass, which was shown to be a mixed-celled sarcoma, had completely surrounded the aorta, œsophagus, and trachea, but had not constricted them much.—Dr. THOMAS WILSON showed—(1) a Papillomatous Ligament Cyst the size of a goose's egg, removed from a single woman aged twenty-five years; (2) two Papillomatous Cysts of the Ovaries, removed from a married woman aged thirty-seven years by Dr. Malins. On the left cyst the ovary could be recognised. It contained a small cyst filled with blood, and on its surface was a warty mass one eighth of an inch thick, the size of a shilling. This mass was situated in a membranous case, as if it had been left after the bursting of a cyst. Microscopically the warts were composed of highly cellular connective tissue, containing numerous large vessels, and covered by two layers of tall epithelial cells, with oval nuclei.—Mr. JORDAN LLOYD then read a paper on the Localisation of, and the Various Operations for, Gall-stones. A few points were mentioned in the etiology of cholelithiasis, and the symptoms, more particularly those indicating the presence of calculi in (1) the gall-bladder, (2) the cystic duct, (3) the hepatic ducts, and (4) the common bile-ducts were discussed in detail. The various mistaken diagnoses—such as pleurodynia, indigestion, spasms, and colic—were alluded to. The paper concluded with a clear, concise account of the various operations for the relief of the condition, and of the difficulties which were met with in some of the more complicated cases.

LEEDS AND WEST-RIDING MEDICO-CHIRURGICAL SOCIETY.

President's Address.—Exhibition of Specimens and Cases.

A MEETING of this society was held on Oct. 19th, Dr. E. WEST SYMES, President, being in the chair.

Dr. WEST SYMES (who was one of the two original secretaries of the society), after thanking the members for the honour they had conferred in electing him to the Presidency, proceeded to give an account of the origin of the society in 1872 and its earlier career, tracing its history down to the present time. He pointed out that it was now in a most flourishing condition, having a membership of over 300, a very good average attendance at the meetings, and possessing a most valuable medical library, which is united with that of

the medical department of the Yorkshire College. He concluded by claiming for the society that its meetings are conducive to goodwill and good fellowship amongst the members, and that they are thus helped and strengthened for their daily work, alike scientifically, professionally, and socially.—Dr. HELLIER then read the notes of a case of Osteo-malacia and gave an account of some recent methods of treatment of the disease. The paper was discussed by Mr. JESSOP and Dr. TREVELYAN.—Dr. CHURTON read the notes of a case of Acute Peripheral Neuritis due to Lead, fatal on the sixth day, and discussed the diagnosis between Landry's paralysis, multiple neuritis, and anterior polio-myelitis. The case occurred in one of the lead-poisoned districts, and the metal was found to be abundant in both the cold and hot water supply of the house.—Mr. MAYO ROBSON gave an account of a case in which he had successfully removed by gastrotomy 47 cast-iron garden nails 1½ in. long; 93 brass and tin tacks ½ to 1 in. long; 12 large nails, some brass-headed; 3 collar-studs, 1 safety pin, and 1 sewing-needle. They had been swallowed by a child aged ten during the course of the previous eight months. The wound healed up by first intention, and the patient made a complete and satisfactory recovery. [The case is reported in full in our present issue.—ED. L.] Besides the interest of the case Mr. Robson drew attention to the obscurity of the symptoms until a clue was obtained by the vomiting of a nail, and he further dwelt on the marked effect of transfusion of saline solution in combating shock. He said the practical lesson to be derived from the case was that even in desperate cases such as the one related, where the patient was reduced to a condition of the most extreme weakness, it might be worth while, though apparently almost hopeless, to make the attempt to save life. The paper was discussed by Mr. KILNER CLARKE, the PRESIDENT, Dr. DOBSON, and Mr. LITTLEWOOD.—Dr. CHURTON showed the following:—1. Photographs of a patient with Acromegaly. 2. A woman whose Facial Nerve had been destroyed by a Tumour of the Parotid; the left eye had been wide open for four years, without any, even the slightest, congestion of the conjunctiva resulting, the fifth nerve being normal. No artificial protection of the eye had been in use. 3. A boy aged fourteen years who was admitted into the Leeds Infirmary early in August for Tuberculous Ascites. Eighty-four ounces of fluid taken from the abdomen resembled milk; it was, however, not chylous, but semi-purulent. Leucocytes were abundant in probably opalescent fluid. Ten days later seventy-two ounces of similar fluid were removed by trocar. The boy recovered without further tapping; he seemed to be in perfect health, and the abdomen resumed its normal shape and size.—Mr. MAYO ROBSON exhibited a specimen of the Cæcum and a considerable part of the Ascending Colon which he had removed ten days previously from a girl aged fourteen years on account of a malignant stricture. The patient was making a good recovery. He also showed a large Sarcoma of the Uterus which he had removed by the intra-peritoneal method of hysterectomy, the patient having recovered just as after an ordinary ovariotomy.—Mr. WARD showed a patient on whom he had performed Gastrotomy for Malignant Disease of the Œsophagus.—Mr. LITTLEWOOD exhibited (1) an Epithelioma of the Uterus removed by Vaginal Hysterectomy, and (2) a Columnar Epithelioma of the Rectum removed from a patient aged sixty-five years without previous colotomy. The other cases and specimens were:—Mr. T. PRIDGIN TEALE: Tuberculous Testis with Nodules in Vas Deferens.—Dr. HELLIER: Apoplectic Ovum with Early Embryo.—Dr. TREVELYAN: (1) Naked-eye Sections through Brain, and (2) Specimens of Anthrax Bacillus.—Dr. T. WARDROP GRIFFITH: Intra cranial Growth causing Crossed Palsy.—Mr. TOPHAM and Dr. MANTLE: A case of Acromegaly.—Mr. W. H. BROWN: Calculi from (1) Kidney, (2) from Bladder, and (3) from Urethra.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this society was held on Thursday, Oct. 11th, the President, Mr. MAKEIG JONES, being in the chair.

President's Address.

The PRESIDENT delivered his inaugural address on Hospitals and the Profession. He characterised our present hospital system as tending to pauperise and demoralise the population generally by its discouragement of habits of thrift &c. He divided hospitals into two classes—those for the relief of the sick and those which, in addition, are used for training our future medical men. These latter, he thought, should be directly under the State, as their very purpose was of vital importance to every member of the community. The other class, he contended, was not required to anything like the extent that the outside public was led to believe. While freely admitting the greater skill of the surgeons, he was firmly convinced that operations were more successful and convalescence more rapid in the patients' own homes than in the most elaborately furnished hospital. He took midwifery as the type of severe operation, every ordinary case of midwifery being as much dependent on its surroundings for its recovery as an abdominal section. He then passed on to the financial position of patients, alleging that the medical men who attended gratuitously patients in the London hospitals who paid two guineas weekly for their maintenance, were taking the bread out of the mouths of their poorer brethren. Again, where owners of works or workmen subscribed to hospitals in lieu of paying a medical man for attending to their accidents the hospital surgeon should receive a share of that subscription. He thought venereal cases should not be attended gratuitously. After mentioning several cases in his own practice of patients who could well afford to pay being offered hospital recommendations he drew special attention to the demoralising influence of hospitals on the work of the general practitioner, who had such strong inducements held out to him to shirk his responsibility by handing over his severe cases to a hospital. This fell most severely on the middle class of society, who could not afford to pay a special surgeon and were not poor enough for the hospital and so had to serve as the block on which the general practitioner tried his 'prentice hand in operations which he had no opportunity of becoming familiar with. He then alluded to the lack of good ethics on the part of hospital staffs and its bad influence on medical students. His ideal hospital system was that every man's dwelling should be fit to be his own hospital and that the money now spent on hospitals should be devoted to providing medical men and nurses for them. After speaking of the non-recognition of medical practitioners' services, both by the State and by the individual, he suggested that they, the best-educated men in the community, should as such pay more attention to politics and other public matters.

Reviews and Notices of Books.

The Natural History of Plants, their Forms, Growth, Reproduction, and Distribution. From the German of ANTON KERNER, Professor of Botany in the University of Vienna. By F. W. OLIVER, M.A., D.Sc., Quain Professor of Botany in University College, London; with the assistance of MARIAN BUSK, B.Sc., and MARY EWART, B.Sc. Parts I. to VI. London, Glasgow, and Dublin: Blackie and Son. 1894.

THE publication of this admirable translation of Professor Kerner's justly popular work has now embraced more than one-third of the whole book, and must by this time have gained a firm footing amongst lovers of natural history in this country. The scope and plan of the work are both wide and novel, whilst the skill with which the author marshals his facts and the lucidity with which he expounds them render such a work full of interest as well as of instruction. We have said that it is framed on a novel plan; perhaps it would be more correct to say that the manner in which the subject is set forth is new; and it may be added that in many respects it is more complete than any existing treatises of the class. The great merit of a work like this is to demonstrate the truth that the study of plant life is something more than is involved in the analysis of structural variations, that it embraces much beyond the taxonomic arrangements which were once, and that not so long ago, regarded as the *ultima ratio* of the science of botany. On the contrary, it opens up the fullest consideration of the conditions which environ the vegetable kingdom, and reveals

the physiological processes that the plant exhibits. In a word, it is biology in its widest sense that is here discussed. To impart the knowledge of all the phenomena that are contained therein in such a way as to interest readers of all classes has been the author's aim, in which he has certainly succeeded. He leads us through the subject—from the study of the cell and of protoplasm and its activities to the methods of nutrition and the devices whereby plants gain their nutriment—of parasitic plants, of the soil changes due to the action of plant life, onward to the internal functions of sap circulation and transpiration. Then follows the study of the processes whereby chlorophyll is formed, and that opens up the consideration of the arrangement, form, and function of the leaf. He next deals with metabolism and the mechanism for the transport of substances in living plants, respiration, development of light, and heat. Then come the subject of the growth and construction of plants, and that of plant forms as complicated structures. All these are discussed in non-technical language, and although naturally the nomenclature of the genera referred to in illustration of facts can be familiar only to the botanist, the uninitiated may acquire a vast fund of information from the perusal of these pages. We believe that this publication will go far to quicken an interest in botanical study. There must be many whose leisure hours might be profitably and pleasurably spent in this attractive pursuit, which the perusal of such works as this cannot fail to render more attractive still. The manner in which Professor Oliver and his lady co-editors and translators are rendering the work is unexceptionable, as also is the style in which it is issued by the publishers. The pages abound in excellent engravings, each part being also accompanied by a coloured plate.

JOURNALS AND REVIEWS.

The Journal of Physiology. Edited by MICHAEL FOSTER and J. N. LANGLEY. Vol. XVII., Nos. 3 and 4. London: C. J. Clay and Sons.—This part contains the following articles: 1. The Constituents of the Hypogastric Nerves, by J. N. Langley and H. K. Anderson, in which it is shown that the hypogastric nerves in the cat consist chiefly of non-medullated nerve fibres, although they contain also a considerable number of medullated fibres. The smaller fibres are likewise in part afferent; the larger ones in the spinal branches to the inferior mesenteric ganglion and to the cœliac plexus run chiefly to the Pacinian bodies. The sacral nerves send a variable number of fibres, up to twelve or twenty-four, into the lower end of the hypogastric, but nearly all these turn back with the hypogastric fibres to the bladder and other viscera. The number of afferent fibres in the hypogastrics is small compared with that of the efferent fibres, the proportion being about one to ten. Medullated fibres pass from the hypogastric of one side to the hypogastric of the other. 2. A Study of the Sense of Equilibrium in Fishes, by Fred. S. Lee, in which the author shows that certain movements of the eyes and fins and conditions of the acoustic apparatus are connected with the maintenance of the equilibrium of the body. 3. On the Anatomical Constitution of Nerves of the Skeletal Muscles, with Remarks on Recurrent Fibres in the Ventral Spinal Nerve Root, by C. S. Sherrington. The author, amongst other points, shows that in a muscular nerve trunk from one-third to one-half of the myelinate fibres are from cells of the spinal root ganglion, their diameters ranging from 1·5 μ to 20 μ, being that for the root ganglion fibres; but the largest fibres in the mixed nerve trunk come from the anterior (ventral) or motor spinal root. The majority of the larger root ganglion fibres in the muscular nerves terminate in muscle spindles; the small nerve fibres seem in some instances to end in free fibrils. 4. Studies in Phloridzin Glycosuria, by P. A. Levene. 5. On the Physiological Action of Pyridine, by T. Lauder Brunton and F. W. Tunnicliffe. 6. The Relation of the Respiratory Exchange of Cold-blooded Animals to Temperature, by H. M. Vernon. 7. Note on Oxalates and Muscle Rigor, by F. S. Locke. And lastly, Further Observations on the Secretory and Vaso-motor Fibres of the Foot of the Cat, with Notes on other Sympathetic Nerve Fibres, by J. N. Langley.

Journal of Microscopy and Natural Science. Third Series. Vol. III. Pp. 448. Edited by ALFRED ALLEN, assisted by Professor LATHAM of Chicago, FRED. GAERTNER, J. STEVENSON BROWN, and FILANDRO VICENTINI. London: Baillière, Tindall, and Cox. 1893.—This excellent *résumé* of microscopical work contains some interesting original articles. Amongst others are those on the Cultivation of Diatoms by Artificial Means, written by Dr. Miguel; on Microscopical Technique, by "W. H. B."; on Sea-water Aquaria, by R. Lawton Roberts, illustrated by Miss Florence Phillips; on Protozoa in Carcinoma, by James Galloway; on Polarised Light, by G. H. Bryan; and on Stains and Staining as applied in the Examination of Animal and Vegetable Structures under the Microscope, by Peter W. Squire. There are many references to recently published books and serials.

The Asclepiad, No. 16, Vol. XI.—In this number of the *Asclepiad* are several good articles, all from Sir Benjamin Ward Richardson's accomplished pen, and special prominence is given to a review of cases treated in the London Temperance Hospital. John Howard's career is traced in an excellent sketch, which was, in fact, the speech delivered by the author at the unveiling of Howard's statue in Bedford last March. Born between 1724 and 1727 (both the year and the place are uncertain), Howard spent his first forty-five years as an intellectual man of affluence and of leisure. He made the grand tour through France and Italy before he was twenty-five years old, and a few years later, while on a voyage to Lisbon, was captured by the French and kept a prisoner for two months. In 1756 he was elected a Fellow of the Royal Society, to which body he communicated papers on the temperature in Bedfordshire and on the Bath waters, and in 1773 he became High Sheriff of Bedford. His holding this office inaugurated his fruitful labours in the cause of prison reform, which were conducted with the zeal and courage of an apostle until 1789, when he made his final tour on the Continent, and died from fever at Cherson in Russia. Two likenesses of Howard accompany the article—an autotype frontispiece and an engraving.

The English Illustrated Magazine. November, 1894. London: *Illustrated London News* Office.—The opening article of the November number, by Mr. Stanley Lane-Poole, is entitled "Caged in China," and describes the remarkable experiences of some European captives in 1840, when the island of Chusan was occupied by our troops during the first China War. Captain Anstruther of the Madras Artillery, having been carried off while surveying, was placed in a wooden cage and secured by an iron ring round his neck, handcuffs, and leg-irons, which latter he supposed weighed 18 lb. and were worn for four weeks. About the same time the survivors from a wreck, including Mrs. Noble, the captain's widow, were put each into a small cage, which was carried on a bamboo by two men from city to city. On the second day they reached Ningpo, where Anstruther already was. There were now assembled sixteen Englishmen, one Englishwoman, one Italian, and about twenty Lascars, all in cages, in which they were kept for the first two weeks, taking exercise at intervals in the daytime, but at night they were locked up in the cage again. No further violence or insult was inflicted on the prisoners, and in about five months they were taken on board H.M.S. *Blonde*. Anstruther conveyed his cage to Madras, where it still is in a museum. The internal dimensions are: length, 2 ft. 11 in.; width, 1 ft. 6 in.; height, 2 ft. 7 in. Mrs. Noble's cage is preserved in the Royal United Service Institution, Whitehall.

The internal dimensions are: length, 2 ft. 10 in.; width, 1 ft. 7 in.; height, 2 ft. 4 in. The author states that the accounts of Sir Harry Parkes and Sir Henry Loch being similarly treated at Peking in 1860 are unfounded.

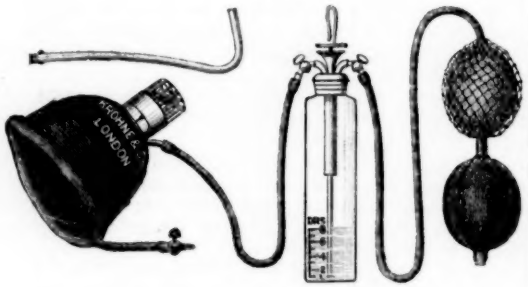
New Inventions.

MESSRS. KROHNE AND SESEMANN'S REGULATING INHALERS FOR THE USE OF CHLOROFORM OR ETHER.

WE have from time to time had occasion to notice in THE LANCET the inhaler connected with the name of Dr. Junker and constructed by Messrs. Krohne and Sesemann, and the various improvements made upon the original model. Messrs. Krohne and Sesemann, who have used most laudable endeavours to stem the tide of chloroform fatalities by supplying an inhaler which would minimise the risk of the anæsthetic, have placed before us their latest inhalers furnished with the most recent improvements. We propose to consider the inhaler as used for chloroform before dealing with that intended for ether, as we regard them as of very different merit. The chloroform inhaler, a sketch of which we append (Fig. 1), is based upon the belief that to ensure a steady, low percentage strength vapour of chloroform, delivered constantly and absolutely under the control of the administrator, is the safest and best method of exhibiting chloroform.

The apparatus, it will be seen from the illustration, consists of three parts: (1) a graduated bottle for the chloroform with a perforated screw-stopper, fitted with Dr. Dudley Buxton's funnel, and capable of attachment to the administrator's dress; (2) an ordinary elastic air pump, which forces the air to the bottom of the bottle, where it is thoroughly mixed with chloroform vapour, which passes out by a tube not in contact with the chloroform to (3) the face-piece. On breathing gently through the mask, held some inches from the face, every phase of each respiration is made visible by the feather indicator attached to it. To add to its efficiency this respiratory indicator is in the improved specimens guarded from injury by a perforated metal cap as shown in the illustrations. Both the air tube and

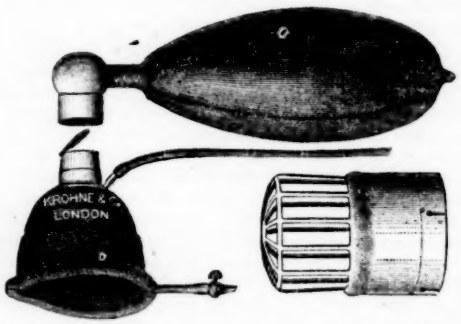
FIG. 1.



the vapour tube passing through the perforated stopper are now provided with stopcocks, which prevent the loss by evaporation of the anæsthetic stored or left in the bottle after an administration. The stopcock is introduced with the view of saving the loss of any chloroform. It is, however, doubtful whether chloroform through which air has been pumped for some time is not better thrown away rather than preserved for another occasion. How far, again, this addition is an advantage will depend upon the care and thoughtfulness of the administrator. It may happen, for instance, that in putting the apparatus together a careless man might affix the air tube of the apparatus to the mouth-piece and the vapour tube to the elastic pump. The consequence of this would be that the chloroform would be forced up the long air tube into the mouth-piece and cause serious injury to the patient, indeed more than one fatality has resulted from this accident. The effect of closing the newly added stopcock would not perhaps be so serious. But having pumped air into the bottle for some time it would not do to turn on the chloroform vapour under this extra pressure. The vapour stopcock should, therefore, always be turned on fully before use in order to prevent such a contingency. The egress tube is so constructed that should the bottle be capsized the liquid chloroform will not enter the efferent tube. For the administration of ether a larger bottle (two-ounce) has been made and a bag affixed which plugs over the mount of the face-piece, as shown in Fig. 1. The present improvements are: (1) A perforated metal cap which protects the feather, itself the "respiration indicator," replacing the closed cap which in former patterns of the inhaler had to be removed when the feather register was to be watched. (2) The addition of the second stopcock to avoid waste, to which we have above alluded. Messrs. Krohne and Sesemann challenge comparison between the use of their inhaler and the employment of lint, or linen cones such as are used in India and elsewhere. They believe that not only do patients incur less risk when their inhaler is used, but are spared the struggling stage and have the "after-effects" of the anæsthetic lessened. Less chloroform is used and the administrator holds absolute control of the quantity of the anæsthetic with which he is working. We have been permitted to see reports of cases under the care of Professor Vincent, chief surgeon to the Hospice de la Charité, Lyons, of some in the practice of Dr. Carter of Weymouth, and of others in which Messrs. Krohne and Sesemann's improved inhaler was employed, and they are highly satisfactory. It is not for us to attempt to decide what method is the safest. Syme and his followers disregard the quantity of chloroform used, provided the results, as judged by the respiration, evince the patient's wellbeing; but we admit that a strong case is made out by Messrs. Krohne and Sesemann for their inhaler, with its admirable appliances for regulating the strength of vapour which the patient inhales.

Messrs. Krohne and Sesemann have applied the same principle to the construction of an apparatus for giving ether. We give an illustration (Fig. 2) of the inhaler below, which

FIG. 2.



shows that the bottle used is larger than that employed for chloroform and is graduated to two ounces, the usual quantity of ether employed. The efferent tube also is fitted with a bone terminal in the bottle. Dr. Carter of Weymouth, who has tried this inhaler for ether, gives a hearty encomium to it. It is claimed for it that less ether is required, less cyanosis shows itself under its use, and the quantity of ether given is capable of being controlled by the administrator. The usually accepted method of giving ether demands a much more concentrated vapour than can be obtained with this inhaler; further, in attempts to increase the vapour strength the cooling of the apparatus by the volatilisation of the ether is so great that the air tube is liable to get blocked with ice. This has to be avoided by keeping the bottle in warm water. Unless this proceeding is adopted it is not easy to obtain satisfactory ether anæsthesia by the use of the inhaler in the case of adults, and especially vigorous males. For children, females, and persons in whose case any cyanosis is to be dreaded this apparatus may prove of service. We do not consider it so satisfactory as the corresponding chloroform inhaler, and for the reason that we believe the principles underlying the use of the two anæsthetics are quite different. The "ether inhaler" answers admirably for the exhibition of the A.C.E. mixture.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 3, 1894.

UNDER the title of "The Public Neglect of Medical Education in London" a correspondent of the *Times* last week showed how well medical education was as a rule carried out in London, in spite of the paucity of endowments and the absence of any grant from the State. The writer calculates that, considering the number of medical students and the average fees they pay, an annual deficit of nearly £100,000 would exist if the teachers were paid adequately and a proper staff of lecturers, demonstrators and assistants were appointed, and suitable laboratories, class-rooms, libraries, and museums were established in each school. The State expenditure for the University of Zurich has been taken as a standard of comparison and the deficit thus estimated; but as a matter of fact a direct calculation of the money required to pay adequately the medical teachers of London shows the deduction to be in no way exaggerated. It is obvious that this large deficit is not met, as is suggested by the *Times* correspondent, by the fearless diversion by the governors of endowed hospitals of surplus funds, which have been entrusted to them for the purposes of medical charity, into the cause of medical education. The incomes of Guy's and St. Thomas's Hospitals with difficulty meet the expenditures, so that from these sources no money can possibly be diverted to meet the needs of the medical schools. The other endowed hospital, St. Bartholomew's, is rich, and we believe that money for building a part of the medical school has been advanced by the governors, of course with the consent of the Charity Commissioners, the authorities of the medical school having to pay an annual interest on the sum expended, and being liable for its repayment. The other medical schools can have received, and can receive, no such support, for the funds of their respective hospitals would not permit of it being given. University College and King's College Hospitals were built long after the foundation of the Colleges, and the medical professors in both Colleges were mainly concerned in obtaining the necessary funds for establishing the schools, and in neither case is the hospital independent even now of the contributions of the College and the medical staff. In the remaining schools the cost of working is shared by the teachers, and if new buildings for class-rooms or laboratories are required the respective staffs must find the means.

The truth is that although the work of medical education in London is, on the whole, admirably done the teachers are but poorly paid. This is recognised in the fact that scarcely any London teachers devote their lifetime to their subject; while nearly all, being duly qualified practitioners, spend the chief part of the day in the practice of their profession, reckoning their earnings as teachers as of secondary importance as a factor in their professional incomes. Many of the best known teachers are also paid considerable, if occasional, sums as examiners. But, while this persistent under-payment of medical teachers in London appears to be regarded with remarkable philosophy by all concerned, the amiable attitude towards the present condition of things cannot long continue. The question is already a very serious one, and as the increase in the scientific necessities of a medical student's curriculum becomes more marked, and the necessity of having experts among the medical teachers for proper instruction more urgent, it will inevitably tend to become proportionately more serious. Biology (botany and zoology), chemistry, physics, physiology, histology, and anatomy must be taught by experts; and year by year the teachers in these subjects must more surely find that their whole time is required, if they are to keep pace with advancing knowledge so as to be able to impart thorough instruction. The only remedy for the evil is the concentration of the scientific teaching; the professional and clinical instruction could be given at the various hospitals as at present. Eleven medical schools, or rather twelve (for the School of Medicine for Women must now be included), are quite unnecessary. Twelve teachers of biology, twelve teachers of chemistry, twelve teachers of physics, twelve teachers of physiology, twelve teachers of anatomy in the London medical schools—the mere statement of the position in these terms shows its absurdity. And this is the greater when we remember that there are also teachers of some of these subjects in non-medical colleges and institutions, and that there is no difference in what should be taught to all science students, whether medical or non-medical. Three or four scientific centres—thoroughly equipped and furnished—would be sufficient for the metropolis. The classes would be sufficiently large, but not too cumbersome, and the teachers would probably receive a sufficient income from the fees; and, if this should not be so, endowments, either from private philanthropy or from the State, could then be justly asked for and would, we think, be forthcoming. Three or four scientific colleges, to either of which a student might go for his education, would be sufficient to ensure a fair rivalry among the teachers and to prevent the instruction becoming a mere mechanical lesson, always an acute danger in a centralised institution.

Centralisation into one enormous institution would in London be most disadvantageous because of the huge size of the metropolis and its suburbs, and the number of its students who would require personal supervision and practical work as well as lectures. It would probably lead to a few professors making enormous incomes and perhaps gradually becoming lax in the performance of their practical teaching. Three or four centres in different parts of the metropolis would prevent this evil. We regret that the rejection of a practical scheme for the formation of a local teaching university in London has frustrated all hopes of such a beneficial reform being carried out, for it is hardly to be expected that the authorities of any one particular school will vote themselves or their colleagues out of existence.

"FOR MY FRIENDS: a Life's Reminiscences"[1]—such is the title of one of the most fascinating autobiographies that has ever issued from the press. If, indeed, we were

[1] "Für meine Freunde: Lebenserinnerungen." Von Jacob Moleschott. Giessen, 1894.

challenged to show how far a rigidly scientific life, divided between the laboratory, the clinical ward or bedside, and the University chair, can at the same time be romantic in its interest and even dramatic in its situations, we would point to this posthumous work by MOLESCHOTT. A Dutchman of the true patriotic mould, love of his country, linked as it was with the tenderest love of home, seemed to brighten and to develop a warmer glow the further his academic fortunes carried him; for MOLESCHOTT'S destiny was like BILLROTH'S—to spend his most active, most prolific years in foreign lands. Yet such is the humanitarian influence of science that, transferred from Holland to Germany, from Germany to Switzerland, from Switzerland to Piedmont, and from Piedmont to Turin, JACOPO MOLESCHOTT at each stage of his career became in the best of all senses naturalised in the country of his temporary adoption and made its truest interests so entirely his own that he came to be beloved by his fellow-citizens for the time being as one of themselves, sharing their highest honours and aiding their evolution with all the greater efficacy that he brought fresh and hitherto untried forces to their help. The culmination of his career was attained on Dec. 16th, 1892, when, in the *aula magna* of the Roman University, as an Italian citizen worthy of the name, as a senator of the kingdom, as a professor in the metropolitan seat of learning, and as a medical consultant working in harmony with physicians of all nationalities, he celebrated his jubilee in presence of pupils and delegates from nearly every European school. He received from King Humbert the Order of Civil Merit of Savoy.

As leading up to this *dénouement* the autobiography has an almost epic interest, while at every turn it affords peculiarly instructive and salutary lessons. Among these is its exemplary though silent protest against the exclusive spirit that threatens to work as much mischief in the professional sphere as "breeding in-and-in" has wrought in those countries where caste prevails. Born of a medical family, the son of an enthusiastic and largely employed practitioner, young MOLESCHOTT was marked out by "manifest destiny" for the healing art; and yet, by influences he always looked upon as providential, his education was not directed to that goal till he was well into "the twenties." It was literature, in what was the Dutch equivalent for our grammar school, that first made learning a pleasure to him; and when he passed from Holland to Cleve in Germany the same discipline, now become a labour of love, was extended to him under still more effective auspices. Side by side with the classics he was taught English and French, and the enthusiasm aroused in him by the master works in those literatures overflowed into other domains of knowledge. The linguistic habit, thus early acquired, put the treasures of other nationalities, in science and in poetry, at his command; and when he came under the literary spell of GOETHE he was ripe for that transition from the synthetic to the analytic, from the creative to the inductive, which the Jupiter of Weimar himself underwent, to his own finely complete and catholic development. "Cherish the Beautiful, the Useful will take care of itself," said the author of the "Cosmos," himself another illustration of this ideal of mental culture; and MOLESCHOTT, when years afterwards he compared notes with the great Dutch ophthalmologist DONDERS, found his sagacious countryman congratulating himself that the same discipline had also been his.

MOLESCHOTT was more than twenty years old when he left Cleve, and by this time he could look around him and choose the path on which his life's energies were to be expended. At first law was proposed for him by his father; but young MOLESCHOTT on due deliberation renounced this in favour of medicine. To Heidelberg he repaired accordingly, and at once breathed the atmosphere created by such investigators and teachers as TIEDEMANN, GMELIN, CHELIUS, BISCHOFF, NAEGELE, and PÜCHELT. Under such inspiration—to use his own phrase—he "revelled in learning" (*schwelgte im Lernen*), and with his trained faculties and powers of ready apprehension and reasoning acquisition was "an easy game." Nay, he found time, in the intervals of biological study, to read HEGEL, STRAUSS, and VISCHER, losing no opportunity of widening his mental horizon and always courting the companionship of his seniors. With all this, he had a special subject on which he concentrated study and thought; so that, when the "Teyler'sche Gesellschaft" of Haarlem offered its prize for the best criticism of LIEBIG'S Theory of Vegetable Growth, MOLESCHOTT gained it without difficulty, having covered the ground in the investigations he had made it his business to pursue. Very instructive as well as interesting are his experiences in practice at Utrecht, to which he repaired after graduation; but it is with his work as a *privat-docent* at Heidelberg that the curtain rises on the dramatic incidents of his life. His department was physiological chemistry, and, fresh from the laboratory of GERARD JOHN MULDER, he was able to subject to keen and exceptionally well-qualified criticism the then prevailing doctrine of LIEBIG, especially as to nutrition. His fearless antagonism to that authority and his untrammeled spirit of inquiry, which was the keynote of his teaching, were too much even for Heidelberg, and the University magnates warned him to modify his tone. Threatened with deprivation of permission to teach in case of non-compliance, he elected to leave Heidelberg, and, with his newly married wife—to whom he pays the most tender and touching of tributes,—he went to Amsterdam, there to enter on consulting practice, but by the influence of some of the leading medical teachers of Germany, KÖLLIKER and HASSE among them, he accepted the chair of Physiology in Zurich. This was in 1856—the year to which science owes his beautiful monograph entitled "Licht und Leben." Again his power of drawing kindred lights around him appears, and the "Modern Athens of Switzerland" found him the centre of a *coterie* which included HERWEGH, SEMPER, GOTTFRIED KELLER, FRANZ LISZT, and VARNHAGEN VON ENSE; while a special pilgrimage to see and converse with him was undertaken from England by the author of the classic life of GOETHE, then published, G. H. LEWES.

At this stage he employed his leisure in the study of Italian, never dreaming that for more than thirty years he was to teach first in the Subalpine and next in the Roman schools, and to create a new generation of physiologists to revive and carry out the traditions of SPALLANZANI

and MORGAGNI; and when, at the instance of CAVOUR, he was transferred from Zurich to Turin he almost imperceptibly glided into the idiom and accent of the young Italy he was thenceforth to address. Here the autobiography abruptly closes—to be continued by its editor, his daughter, ELSA MOLESCHOTT, through subsequent experiences scarcely less dramatic, while even more instructive, than the pre-Italian life. Even were it to have no such sequel the volume would have a permanent place in literature for its beautiful humanitarian spirit and for the example it affords of the most rigid and even severe scientific work, tempered and etherealised by sympathetic contact with all that is most refined in literature and art—teaching the same lesson so beautifully conveyed in BILLROTH'S life and letters, that not only is there no divorce between medicine and poetry, medicine and painting, or medicine and music, but the most salutary reciprocity and mutual benefit. As in BILLROTH'S philosophy, so also in MOLESCHOTT'S, the keynote is belief in the evolution of humanity and love of it in all its normal manifestations. Modesty, too, is another characteristic common to both, their well-instructed minds keeping them constantly aware of what each generation owes to the other, and how the spirit of self-assertion, seen in obtrusive claims to originality or priority, has its source as often in ignorance as in self-importance, both of them adverse to the coöperative inspiration which is the motive power of evolution. "He, being dead, yet speaketh," may be inscribed on the page headings of these posthumous "Erinnerungen," fraught as they are with lessons never inopportune, and least so in the peculiar phase of professional education and culture through which we are passing to-day.

FOR at least half a century it has been known that bovine tuberculosis is an infectious disease and makes havoc in cowsheds, especially those of large towns; but it was not until VILLEMIN instituted his remarkable experiments in producing it by inoculation with tuberculous matter that its dangerous character with regard to transmission from affected cattle to mankind became obvious, and ever since that time the apprehension of risk from the consumption of the flesh and milk of such animals has become more and more intensified, until now action based on this dread is adopted, but in an irregular, partial, and far from uniform manner. In some places or cases the milk from suspected or really tuberculous cows is interdicted, but in others it is distributed for food without let or hindrance; while the advice to boil all milk from cows is abundantly given, though among the poorer classes there is little probability that this advice is ever attended to, even when it has chanced to reach them. It is pretty much the same with regard to the flesh. There can be no doubt whatever that a very large amount of meat from animals which have been more or less affected with tuberculosis finds its way to market and is sold as food. This will always be the case so long as the disease exists unrecognised or unnoted among herds of cattle and in cowsheds, and also so long as cattle are killed and dressed in private slaughter-houses without adequate supervision and inspection.

That there is danger to mankind in the ingestion of such milk and flesh we have no great weight of direct proof to show, and the results of experiments on animals are mainly relied upon to prove the existence of this danger. But it must be confessed that these results are sufficiently startling and definite to establish grounds for alarm, and to evoke sanitary measures devised with a view to control the disease in bovines, and to safeguard the public health. From time to time there have been reported cases of tuberculosis in man which circumstantial evidence went some way to prove were due to infection, either by inoculation or the ingestion of flesh or milk of diseased animals; but there has always been wanting a link in the chain, or doubts have been raised on some of the points connected with the alleged transmission. So that it is mainly, if not altogether, on the results of experiments performed on animals that the need for precautionary measures with regard to mankind is based; and when we find positive results produced constantly in animals somewhat closely allied to man in their organisation, there can scarcely remain a doubt that when he is subjected to the same influences, and under the same or similar conditions, he will become infected. Therefore it is that the unrestricted sale for food of the flesh and milk from contaminated cattle is causing so much anxiety to sanitarians, and more particularly to medical officers of health, who, though willing—nay, eager—to take action on behalf of the public, have no authoritative information to guide them or support their action. Some medical officers of health have prohibited the disposal of flesh from tuberculous cows as food, and in this course they are supported by the local authorities; there appears, however, to be a grave difference of opinion among them, not only as to the amount of danger the public incur from the presence of the disease among cattle, but also as to whether localised lesions found in a carcase should warrant condemnation of the whole of the flesh. The results of experiments with tuberculous matter itself show that this is eminently infectious whether introduced into the body of an animal by inoculation or ingestion; but this has not been found to be the case with the flesh of diseased cattle when it is apparently free from tubercle; for it would seem that it very exceptionally contains any virus, and even then in such a state of attenuation that it has only infected a small number of animals when the flesh juice has been inoculated in them, but it has never determined any ill-effects when introduced into the alimentary canal. So it may be assumed that there is no danger attending the consumption of such flesh, provided it is entirely exempt from tuberculous nodules and has not been tainted accidentally by tuberculous matter. In the latter case simple cooking should remove all risk; but the former demands close inspection, and owing to the absence of systematic scrutiny of all slaughter-houses this certainly cannot be ensured at present. To reject an entire carcase because a few nodules were found on a patch of serous membrane would certainly be making assurance doubly sure, and would entirely preclude any chance of infection; but then this would entail heavy loss, seeing how prevalent the disease is among cattle in this country. If a thorough examination of every carcase in which tubercle is discovered could be guaranteed, then this wholesale rejection might be dispensed with, and only those carcases in

which the lesions were very extensive and the disease had become generalised should be condemned as unfit for food. The flesh itself should be the object of careful examination, as danger might lurk in infected inter-muscular lymphatics, even when undoubted lesions elsewhere appear to be of small consequence; but it is obvious that such examination demands time and skill, which are only too frequently not forthcoming.

At present it would be well if even some such resolution could be carried into operation as that adopted at the recent Conference of Medical Officers of Health at Chester, to the effect that "the presence of tubercle at any stage in more than one part or organ of a carcase, or the presence of tubercle in any other than the primary stage (crude tubercle) in any single part or organ of a carcase, is sufficient and proper ground for the condemnation of the carcase as unfit for food, and that all butcher's meat &c. of this kind should be condemned accordingly." This procedure would go far to allay apprehension of danger and is in harmony with the French law, which permits the seizure and condemnation of all carcases showing evidence of extensive or generalised tuberculosis; but it implies the inspection of every carcase while being dressed in the slaughter-house, and this cannot be satisfactorily carried out except in public abattoirs, of which there are, indeed, very few in this country. It will probably be a long time before the sterilisation by heat of suspicious flesh can be carried out here as it is at Berlin; but it would be a great saving of food material, and obviate every possibility of danger. It should not be forgotten that other animals whose flesh is consumed as food are liable to tuberculous infection, and more especially the pig, whose carcase is rarely inspected. With regard to the milk from tuberculous cows, this constitutes a far more likely and serious cause of mischief than their flesh, and should most certainly be interdicted as food for man or beast. This can only be satisfactorily accomplished by frequent inspection of cowsheds and the careful employment of tuberculin in suspicious cases.

We understand that the report of the Royal Commission on the subject, which may be confidently expected to clear up many of these doubtful points and give to medical officers of health the arguments for a definite line of action, will soon be made public. The delay has been much commented on, but many of the questions are such as cannot be lightly disposed of, while the widespread discussion of them during this period of waiting will be found to have been not without its uses in preparing the public mind for some of the Commissioners' recommendations. The recent regretted death of the able chairman of the Commission, Lord BASING, will doubtless cause some further postponement.

PRESENTATIONS TO MEDICAL MEN.—Mr. Joseph White, who has just retired from practice in Nottingham, was presented on Oct. 26th with a silver inscribed claret jug by some of his fellow medical practitioners. The presentation took place at the General Hospital, where Mr. White for many years occupied the position of surgeon, and was made by Dr. Tate, superintendent of the Coppice Hospital for the Insane.—At a public meeting held in Ferndale on Sept. 29th the members of the Taff Vale Railway ambulance class presented Mr. S. Hamilton, B.A., M.B., with the gold medal of the St. John Ambulance Association, suitably inscribed, in recognition of his services as their lecturer.

Annotations.

"Ne quid nimis."

THE DETECTION AND PREVENTION OF DIPHTHERIA.

WE have received from the British Laryngological and Rhinological Association a memorial which was presented a short time ago by that body to the President of the Local Government Board, urging upon his department the extreme importance of an early recognition of acute infective diseases of the tonsils, and drawing attention to the excellent results which have followed the establishment in certain American States of laboratories for this purpose. It is contended that action on somewhat similar lines would tend to the diminution of diphtheria and allied disorders, and that the work could properly be undertaken either by medical officers of health or by officers connected with the Public Health department of the Local Government Board. The Local Government Board will need no reminder as to the extent to which fatal diphtheria is increasing in this country, or as to the fact that the compulsory system of education in England and Wales is largely contributing to this end; for it is primarily due to the labours of the medical staff of that Board that these facts have been made evident, and it is mainly owing to the issue of official reports emanating from its medical department that the excessive and growing diphtheria fatality has been brought under public notice. But recently, and owing to the announcements made at Budapest on the subject of immunity against diphtheria by the injection of serum, the public have been more than ever interested in this subject, and we feel certain that the action of the Government will be closely watched in connexion with the prevention of diphtheria. For the moment we will, however, confine ourselves to the memorial before us, a document which refers, not to the conferring of immunity, but to the duty of ascertaining for the benefit of English communities whether the sore-throats being dealt with are of a kind that are likely to grow into what the Local Government Board staff have aptly termed "explosions" of diphtheria, or whether the disease is of a different kind, and perhaps even benign. Thus far, we believe, the memorial has received nothing but the ordinary acknowledgment, and we can quite conceive that action in the direction indicated will need very careful consideration. We take it for granted, however, that the answer of Mr. Shaw-Lefevre will be a favourable one; for though in this country the Government does not as a rule undertake duties for the protection of separate communities, but rather does its utmost to educate local authorities up to such a standard that they may be able themselves to perform all sanitary functions necessary to the prevention of disease in their own localities, yet it would be mere absurdity to suppose that every urban and rural district in England should equip itself with a bacteriological laboratory and an officer who should always be in readiness to discriminate between different sorts of material and organisms sent to him. This may come some day, but that day is not yet. Nor can we assume for a moment that the central authority can be indifferent to a growing mortality, which is now becoming even more dreaded than that which was formerly caused by small-pox. We understand that the President of the Local Government Board has had under his immediate consideration the question of the alarming prevalence of diphtheria in this country in connexion with certain recent proposals as to methods by which the disease may be controlled, and, acting on the principle which has always been maintained in the Public Health Department of the State, it has been decided that the Board should not take any part in supplying

materials for the treatment of individual cases of disease. On the other hand, the President is considering how far modern methods of research, carried out under his department, may properly be utilised towards the early recognition and prevention of diphtheria, and his ultimate decision in the matter is awaited with no little interest.

A MEDICAL SCHOLAR'S LEGACY.

OUR readers are possibly not aware that among the books published by the late Dr. W. A. Greenhill there is an anonymous one, eminently in keeping with its author's studies and predilections, and perhaps more widely circulated than any other from his pen. It is a little volume issued by the Religious Tract Society more than twenty years ago, entitled, in Greek and English, "Αρτος ἐκ τοῦ Οὐρανοῦ, "Bread from Heaven," and consisting of a series of Scripture texts for every day in the year. Though selected on no particular plan, these texts are so arranged as to form a compendium of the Christian faith as it is held in England, and, even apart from this purpose, they embody many profound truths and pregnant sayings which no man, whatever his creed, can peruse and ponder without advantage to mind and soul. Dr. Greenhill, as our obituary notice of him set forth,[1] was a man of many accomplishments, particularly as his well-known edition of Sir Thomas Browne's "Religio Medici" shows, in the sphere of moral and religious speculation. To those of his fellow men who share his interest in such speculation, above all to the large-minded and well-read physician, the little volume especially appeals. It suggests no controversy; it is as far as possible free from polemics; but it is redolent of a wisdom which no philosophy will supersede, and indicates rules of conduct which no man can afford to disregard. Characteristically enough, the modest preface, dated "Hastings, December, 1872," recommends the use of the little volume as, *inter alia*, helping towards the maintenance of that knowledge of Greek which professional men, possibly from the want of such a convenient manual compiled on the principle of "little at a time and often," are apt to let drop, though not, perhaps, as the late Sir Robert Christison said, "beyond recall." If worth learning at all, that noble language (drawn upon daily for the nomenclature of science, and linking itself at every turn with modern culture, whether in literature, philosophy, history, or fine art) is also worth keeping up, and few aids towards that end will be found more effective, even by the actively employed practitioner, than the little manual left behind by Dr. Greenhill, which may not inappropriately be called the "Medical Scholar's Legacy."

UNUSUAL CASE OF HEMIPLEGIA.

DR. JAMES RUSSELL describes in a recent number of the *Birmingham Medical Review* a case of hemiplegia in connexion with which several interesting problems arise. The patient was a man aged forty-eight years whose previous history was uneventful. A week after the occurrence of a fall, which took place a month before his admission to hospital, he had an attack of twitching in his right arm which lasted for half an hour and then passed off, leaving no bad effect. The next night, when in bed, he suddenly became convulsed, the convulsions being general. No local commencement seems to have been observed. When the convulsions ceased he was quite unconscious and remained so for two days. He was then found to be completely paralysed on his right side and to be unable to speak. Power in the arm had since returned to some extent, and so had speech, but the leg remained at the time of his admission completely paralysed. There was also impaired sensibility of the leg both in regard to position and to stimulation by touches, but there was no hemianopia. There was, however, intense double optic neuritis. The patient slowly improved, and on his discharge, almost four weeks after admission, he had regained considerable power in both arm and leg, though he was still unable to stand. Sensation also had improved, but was still somewhat delayed, and localisation of touch remained imperfect. Sense of position, however, had entirely returned. The optic neuritis remained intense. There was neither in the heart nor in the urine anything to suggest granular kidney; but the pulse tension was high, and the radial artery felt thicker than usual. It will be seen that two very interesting questions arise in connexion with this case—viz., (1) what is the position of the lesion, and (2) what is its nature? As regards the latter the optic neuritis is very important. If this is not the result of chronic Bright's disease it is almost certainly associated with tumour. The latency of the symptoms previously to the attack and the absence of headache or vomiting do not absolutely negative this, as has been frequently pointed out. The facts that the leg was more affected than the arm and that there was no aphasia are important, and indicate, with other facts, Dr. Russell believes, the position of the lesion as probably being in the central ganglia.

ACTION AGAINST A COLCHESTER MEDICAL MAN.

MR. WALTER SHEAD, a grocer's assistant, lately sued Dr. J. W. Cook of Crouch-street, Colchester, for £50 for damages alleged to have been sustained by his wife through Dr. Cook's negligence while attending her for miscarriage. The evidence went to show that Dr. Cook had attended the patient gratuitously. She was in a club of which Dr. Cook was surgeon, but such cases were not included in the club charges. As she had great pain for some time, and the patient and her husband thought Dr. Cook's visits too infrequent, they called in another practitioner, who expressed disapproval of Dr. Cook's treatment and attendance. Dr. Cook's treatment was amply vindicated in evidence by himself and by Dr. Handfield-Jones, Lecturer on Diseases of Women at St. Mary's Hospital, and by others. It appears that Dr. Cook's treatment aimed rather at the completion of the miscarriage and that of the other gentleman at the relief of pain. The judge having summed up, the jury in ten minutes returned a verdict for the defendant. It is to be regretted that in such circumstances one medical man should have thought it his duty to support a charge against his neighbour. We can only rejoice that Dr. Cook was sustained by the evidence of three or four professional witnesses, and that the verdict of the jury was satisfactory.

SPENT TEA.

ONLY a few weeks ago we commented upon the wonderful revelations with which the public has been favoured of late years in regard to tea.[1] Our remarks were prompted on that occasion by a report which appeared in the papers, in which it was stated that a certain sample of tea had been sold containing 13½ per cent., or as much as a seventh part of its weight, of mineral matter. A more ingenious mode of sophisticating tea, and on a somewhat extensive scale, was reported last week. It consists in buying up the exhausted tea leaves of restaurant proprietors and subjecting the leaves so procured to a drying process. For this purpose a machine was designed for projecting the leaves by means of a powerful fan against a large pipe kept nearly red-hot. By the time the leaves reached the end of the pipe they were found to have resumed their original curled appearance, and were then caught, looking like genuine tea leaves, in a receptacle at the end of the machine. Over 6000 pounds weight of this re-fashioned spent tea had thus been disposed of during the months of May and June. The admixture of

[1] THE LANCET, Oct. 20th, 1894.

[1] THE LANCET, Oct. 6th, 1894.

spent leaves with genuine tea is by no means a new practice; but since the reduction of the price of tea, and since the Customs decided to examine tea at the ports of entry with the view of rejecting unsound consignments, this resource, it was thought, had become obsolete. Indeed, in the evidence given before the Select Committee on Food Products Adulteration last August it was distinctly asserted that since the action of the Customs in this matter tea was now rarely, if ever, adulterated. Still, it is owing to the vigilance of the Excise officers that we learn that this form of adulteration has not been entirely stamped out. Of course, the Excise authorities were concerned in the present case chiefly because they had been defrauded of duty to the extent of 4*d*. a pound (in all about £100), which would have been obtained by the sale of a corresponding quantity of good teas. Despite, therefore, the apparently complete measures to prevent the adulteration of tea it should still form the subject of careful inquiry under the provisions of the Food and Drugs Act. When the public purchases tea it expects to get an article possessing comforting qualities which are relied upon to minister to their needs, so that when spent leaves, or a mixture of genuine and exhausted leaves, are palmed off upon them they are grossly deceived. It behoves public analysts therefore to see whether the samples of tea submitted to them yield on analysis the normal quantity of the alkaloid theine to which for the most part the refreshing properties of tea are due.

MYELOMA.

AN interesting and characteristic case of myeloma is reported in the Philadelphia *Medical News* of Sept. 1st by Drs. Kerrich and Kektoen. Cases of this nature are so rare that a complete account such as is given by these observers is worthy of considerable attention. The patient was a Bohemian woman aged forty, and first came under observation in March, 1892. There was no syphilitic taint. In December, 1890, and in January, 1891, she had suffered from pain in the lumbar region and over the lower vertebræ and sacrum. In February, 1891, she noticed a small nodule on the lower end of the sternum. This was not painful, and the enlargement was very slow. Soon other swellings appeared on the face and chest, and her strength began to fail. On admission to hospital she was much emaciated. Several nodules were seen over the anterior chest wall, the largest about the size of a hickory-nut, fairly firm, painless, and slightly tender on pressure. She complained of cough, and on examination there was found some diminution in resonance, with loss of intensity of the respiratory sounds over the bases of the lungs, and large and small moist râles could be heard over the chest. The mental condition was good. There was albuminuria. During her fifteen weeks' stay in hospital her temperature never rose above 101° F. The patient's condition gradually became worse, emaciation being extreme. There was morbid anæmia. She died on July 3rd, 1892. Nodules were found as follows—viz., subcutaneously on the left cheek, on the forehead near the margin of the hair, on the inner surface of the left elbow, on the right clavicle, upon the sternum, along the costo-chondral junction, and along the ribs. They were elastic, flattened or oval, not connected with the skin, but apparently attached to the underlying bones. The skin was movable and free from any signs of inflammation. Both the internal and external surfaces of the sternum were irregular and covered with tumour masses. The entire sternum was thickened, but soft and flexible, and in many places the entire bone tissue was replaced by soft, reddish-yellow masses, while in other places it seemed to be distended by similar masses growing from the medullary part. On dividing the breast-bone vertically the entire interior was found to be filled with a soft, reddish grey or yellow vascular tissue that distended the bone into a shell. The ribs contained a large number of similar tumours. The pleura had not been penetrated at any point. The nodules were mainly seated along the costo-chondral junction and at the spinal attachments of the ribs. In many places the ribs bent readily without crackling. The skull presented the following peculiar appearance. Underneath the scalp were found irregular fungoid masses creeping out of the bone. There were also rough areas in the bone. In front the calvarium was in many places porous. There was a growth of soft red tissue in the diploë, which forced the two tables apart and crept through the bony shell externally and internally. The external surface of the dura mater presented fungoid masses, which fitted into honeycomb depressions in the bone. On microscopical examination the tumours were found to consist of round lymphoid cells, with large nuclei, arranged in a finely fibrillated, at times almost homogeneous, matrix. Blood spaces, without any definite walls, were also found.

TREPHINING FOR INFANTILE HEMIPLEGIA.

AN interesting case is described by Dr. Angell in the *Journal of Nervous and Mental Diseases*. The patient was a child aged six years suffering from infantile hemiplegia affecting the right side. The birth was difficult and prolonged, and the condition apparently arose at that time. The child had the usual condition of mal-development on the affected side, it was mischievous, irritable, and dirty in habits, quite unable to use the right hand, and suffered from daily epileptiform attacks. Trephining was performed and a cyst punctured, but no attempt was made to remove it. With the exception of a severe convulsion and a high temperature a few days after the operation, the result of the pressure apparently of a too tight bandage, the patient's progress was excellent. The child was soon taught to be cleanly, began spontaneously to use the right hand, feebly and awkwardly, of course, and ceased to have convulsions. Six months after operation the condition was still improving. There had been no fits, and the mental improvement was maintained.

THE PARIS ACADEMY OF MEDICINE AND THE ANTITOXIN TREATMENT OF DIPHTHERIA.

AT a recent meeting of the Paris Academy of Medicine Professor Straus presented the report of a committee appointed to consider the question of the antitoxin treatment of diphtheria as practised by M. Roux. The report recapitulates the leading facts detailed by M. Roux at the Budapest Congress, and points out that the case-mortality from true diphtheria has been lowered by its adoption from 56 per cent. to 26 per cent. Two of the members of the committee, M. Bergeron and M. Cadet de Gassicourt, had observed cases treated at the Hôpital Trousseau in the wards of M. Moizard, and they were struck by the general improvement in the patient following the injection, the absence of pallor and prostration, and the rapid decline in the fever. The report, after stating that it is highly probable that the serum would produce immunity if employed for that purpose, proceeds as follows: "Such, so far as regards diphtheria, are the remarkably encouraging results of serum therapeutics. It seems, indeed, that we are now in possession of a specific method of treatment—as efficacious as it is harmless—of this disease. Serum therapy, so fruitful in promise, is a discovery belonging to M. Behring; but at the root of this discovery there are other fundamental ones which emanate from Pasteur and his school. Artificial immunisation, even against diseases liable to recurrence, such as anthrax (such also as diphtheria), that is the enterprise realised by Pasteur, which dominates all our

prophylaxis and our therapeutics. We know now that microbes act mainly by the soluble products which they elaborate, by toxines, and that infection, in the wide sense, is nothing but an intoxication. It was here too that Pasteur led the way by showing that a culture of chicken cholera, freed by filtration from every morphological element, is still capable of provoking the principal symptoms—among others the somnolence characteristic of the disease. Subsequently in cultures of the diphtheria bacillus MM. Roux and Yersin, by means of the Chamberland filter, revealed the existence of a poison very different from the toxic ptomaines and alkaloids hitherto known—an extremely active poison, delicate, resembling the diastases or venoms, and the inoculation of which in animals determines the same local and general effects as does that of the living bacillus. The discovery of the diphtherial poison was a valuable ray of light—the tetanic, choleraic, pneumonic, and typhoidal poisons were extracted from cultures and determined by the same method. Does it not seem just that the study and perfecting of antitoxic serums and their protective effects should be pursued in the same laboratory where, under the impulse of Pasteur, in the wake of bacteriology itself, bacterial toxicology has been born? Your committee proposes, then, that you should give a favourable opinion on the use of anti-diphtheritic serum, and would further express the desire that the Pasteur Institute should be placed in a position to meet the demands for the serum which will be made upon it by medical men or by public authorities."

GRAVES' DISEASE AND THYROIDECTOMY.

AT a recent meeting of the American Neurological Association Dr. F. Peterson recorded the case of a female patient aged thirty-four whom he saw in 1888 on account of certain symptoms which had been coming on during the previous seven years. There were present marked tachycardia (the pulse-rate being 120), proptosis, tremor of the hands, sweating, and flushing. There was enlargement of the thyroid gland, especially on the left side, where the enlargement was so great as to give rise by its size alone to discomfort or even distress. Removal of the more enlarged side of the gland was advised, and a year later this was successfully carried out by Dr. Hallen of Linkoping, in Sweden, who removed the whole of the left lobe. Improvement began immediately after the operation in 1889 and has gone on steadily, so that now, five years after the operation, there is no proptosis, no tremor or thyroid swelling, and the patient has been able to carry on her work comfortably ever since the operation. The only symptom that remains as a relic of the former trouble is a somewhat rapid pulse. The case certainly suggests that the operation has had an excellent effect upon the condition.

THE MEDICAL REPORT FOR 1893 ON THE STRAITS SETTLEMENTS.

WE have received from Dr. T. S. Kerr, the acting principal civil medical officer of the Straits Settlements, his official report upon the health of the colony throughout the year 1893. The report shows that the general health of the colony was good, although it cannot be said that the Settlements were ever absolutely free from epidemic disease. Six cases of cholera are reported, all from Singapore, and all terminated fatally. Five of these cases appear to have been sporadic, while the sixth, that of the late Chief Justice Sir Elliot Bovill, appears to have been contracted at Malacca, for the lamented gentleman succumbed on the day after his return from that settlement. The figures relating to small-pox in Singapore are not very encouraging, 128 cases having been reported during 1893, against 73 in 1892, 47 in 1891, and 60 in 1890. The general health of the settlement was satisfactory. The special reports of the colonial surgeons to Penang, Wellesley, and Malacca, which appear as appendices, show that the general death-rates in the two former places were lower than in previous years, while there was a slight increase in that of Malacca. With regard to beri-beri, the total number of cases treated in the three large pauper hospitals during 1893 was higher than that treated during 1892. The percentage of mortality for Singapore and Penang was also proportionately higher, but in Malacca the reverse was the case, the figures being decidedly interesting. Of 1250 cases treated during the year 706 are apportioned to Malacca, with a percentage of mortality of 4·6. In each of the other two settlements this percentage was over 20. Mr. Freer, the colonial surgeon at Malacca, continued the use of wheat flour as an article in the dietary of these patients and attaches considerable value to its use as a therapeutic agent. His statistics go to show that, following a period during which the wheat flour was stopped experimentally, the mortality rose, declining again after its use was resumed, for the month during which the greatest number of deaths occurred was that following the month in which the wheat flour was stopped. These figures and facts are well worthy of notice, for Mr. Freer's results in 1893 confirm those obtained by Dr. Leask in 1892, which we recorded last year.[1]

THE MAYBRICK CASE.

WE know of no case in which so persistent an effort has been made to annul a criminal sentence as has been made on behalf of Mrs. Maybrick. It will be remembered that the convict was sentenced to death at the Liverpool Assizes for the murder of her husband by the administration of arsenic, and that subsequently the extreme penalty was commuted to penal servitude for life. We made an exhaustive analysis[2] of the evidence adduced before the coroner, the police magistrate, and at the trial. The result of such analysis was that we were irresistibly compelled to subscribe to the finding of the jury. The late Sir James FitzJames Stephen, who tried the case, held that beyond all reasonable doubt Mrs. Maybrick was guilty of administering the poison with a felonious intent, but that the conflicting medical testimony afforded sufficient ground for doubting the cause of death alleged by the prosecution. Considering the sharp divergence of opinion between the Crown witnesses, on the one hand, and the late Dr. Tidy, on the other, it was, perhaps, only reasonable that the convict should profit thereby. The lay mind very naturally leans to the side of clemency, and particularly so when facts and opinions on an intricate medical subject are presented to it in such an equivocal manner. Nevertheless, we do not hesitate to affirm that the knowledge and experience of the medical profession generally on the subject of arsenical poisoning were entirely consonant with the presentment of Dr. Stevenson. It has been urged by the advocates for a free pardon or a rehearing of the case—(1) that it is doubtful if Mr. Maybrick died from the effects of the mineral; (2) that there was insufficient proof that it was given to him by his wife; and (3) that the opinions of the medical men were improperly founded, not alone on facts purely medical, but in part on collateral circumstances. With the first of these contentions it is not necessary to say more than that the conclusion arrived at was not by one medical man, but by several, and, so to speak, from different points of observation. The experience obtained at the bedside, in the post-mortem room, and in the chemical laboratory harmonised severally with the theory that death was due to arsenical poisoning. We do not wish to traverse the allegation that the deceased was addicted to "arsenic eating," but it is clear that the fatal ingestion was not accidental, and equally clear that it was not suicidal. A person who desires to compass his

[1] THE LANCET, Nov. 25th, 1893.
[2] THE LANCET, Aug. 17th, 1889.

own death by arsenic would almost to a certainty resort to such a dose as would be likely to be speedily fatal. To prove Mrs. Maybrick's innocence requires more cogent argument than has been hitherto presented to prove a guiltless knowledge of the purchase of the fly-papers, the making of the solution therefrom, the charging of the handkerchief with the contents of the solution, and the admixture of the drug with various articles of food and medicine. The question of motive and the general surroundings of the case, though specially within the province of the jury, cannot be denied the medical observer in search of facts wherein to establish a belief as to the probable cause of death. Convinced as we are of the verity of the crime, we cannot disregard the call of duty, which forbids us to join in the appeal for further consideration of the unhappy woman's case, which has during the last five years, and particularly of late, been urgently made in more than one well-informed direction. The commutation of her sentence, whereby her life has been spared, is, to our minds, as full a requital as mercy can ask, and more, perhaps, than untempered justice could claim.

MEASLES, GERMAN MEASLES, AND "INFECTIOUS ROSEOLA."

THE council of the Medical Officers of Schools' Association have issued a circular to the members of the association, asking for their opinions upon the characteristics of measles and German measles, and also of an affection which they term "infectious roseola," that has hitherto been included under German measles. The circular gives the leading characteristics of each of these affections, which are submitted for criticism and modification. It may be of interest to give here the definition of "infectious roseola," which runs thus: "A specific eruptive fever of short duration, with a probably brief incubation period; commonest in summer. There are no prodromal symptoms. The rash appears suddenly, usually with but slight fever, on the neck, limbs, and trunk; its distribution is irregular, and the face frequently escapes altogether. The eruption consists of large rounded areas of bright red closely aggregated spots, scarcely raised above the surface of the flushed skin. It begins to fade on the parts first attacked as it extends elsewhere, and usually disappears within thirty-six hours, the slight pyrexia subsiding with it. There is scarcely any interference with the general health; the fauces may be slightly reddened, but there is no appreciable sore-throat, coryza, or catarrh, and no enlargement of the lymphatic glands."

THE LATE COLONEL HARDING.

MORE than a passing notice is due to the late Colonel Harding, for many years manager of the Accident Insurance Company, whose recent death at the comparatively early age of sixty brought deep and lasting sorrow to a wide circle of friends. In the appropriate quarter justice has already been done to his admirable business qualities, under which the institution for which he was responsible more than maintained the high reputation bequeathed by his predecessor. His other gifts, literary and dramatic, which amused his leisure and that of no inconsiderable section of the public, have also received their proper tribute of appreciation. It remains for us, as representing an interest brought frequently and closely into contact with his own, to render the meed due to his high standard of honour, his suavity of address, and his unfailing sense of the consideration and deference justly claimed, though not always experienced, by expert, particularly medical expert, authority. Probably no layman of his time had ever larger or more momentous dealings with our profession on its surgical and even purely medical side. Certainly no man in an equal position of trust and responsibility acquitted himself more judiciously and graciously in circumstances often trying and never wholly free from difficulty. We could if called upon put in striking evidence his clear-headedness, tact, and courtesy; but, indeed, there are too many surviving witnesses of his exercise of these qualities to make such illustration necessary. Suffice it to say that the public have lost an able and eminently useful servant and our profession, in particular, a steady and loyal friend by the premature decease of Colonel Charles Harding.

THE DIFFUSION OF SMALL-POX.

THE reports which have come to hand respecting small-pox in England during last week are of a very satisfactory character. They bear favourable comparison with the records of the preceding week in all parts of the country. In London there were only 8 new cases, with the same number of admissions to hospital, against 11, 8, and 11 in the preceding three weeks. The patients remaining under treatment at the close of the week numbered only 50 in the various institutions of the Metropolitan Asylums Board and at Highgate, the numbers on the three Saturdays precedent having been 84, 63, and 60 respectively. No death from the disease was registered either in the inner or outer rings of the metropolis, and only one or two cases were heard of in the suburbs. At Norwich the town council have been discussing the question of the provision of hospital accommodation for small-pox, and, the likelihood of the Local Government Board objecting to any proposal for such accommodation in the proximity of dwellings or near a workhouse or other hospital having been brought forward, a resolution was adopted to keep the iron hospital, which has been discarded since the new isolation hospital was erected, in readiness for any patients as a temporary expedient. At Birmingham the cases of small-pox last week fell to less than 30, while 2 deaths were registered. In Lancashire 1 death was registered at Manchester and 3 deaths at Liverpool, where half a score of cases came to light.

THE TREATMENT OF ACUTE MANIA.

IN the *Windsor and Eton Express* of the 27th ult. a lengthy account is given of a coroner's inquest held in the case of Mr. Thomas Weir, an engineer, aged twenty-five years, who died at the Holloway Sanatorium, Virginia Water, whilst he was confined in a "dry pack." The evidence showed that the patient was very restless and violently disposed, and that under medical orders the prolonged use of the dry pack was resorted to; and that he was practically kept in it for several days up to the time of his death, except during those periods when he was released to be fed and for bathing and other purposes. A post-mortem examination was made by Dr. Hector Mackenzie of St. Thomas's Hospital, and Dr Daniell of Chertsey. The former witness stated in his evidence that he considered the dry pack quite a justifiable mode of treatment, and that so far as he could follow the evidence he did not think there was anything to indicate that it had accelerated death. He thought patients in the condition of the deceased should be seen at least twice a day by medical men. The jury, after deliberating for some time, returned a verdict to the effect that deceased died from exhaustion following mania. They added the following rider to their verdict:—"The jury are of opinion that not sufficient medical supervision was exercised, and that the mechanical restraint was excessive and too long continued." Whatever value may be attached to the dry pack, either as a curative or restraining measure, we are strongly of opinion that upon the evidence its use should be safeguarded and carried out under the constant watchfulness of a medical officer; otherwise there is undoubtedly a risk of it being abused and turned into a means

of punishment, not to say torture. We do not imply that it was so in this instance; but upon the evidence we do not see that the jury could avoid adding the rider, in which they felt it to be their duty to give expression to their opinion. The event is one that we cannot but deplore. We know well how very difficult it is to cope with severe cases of active and violent mania such as many of those are which are received at Virginia Water for treatment. And too much care cannot be taken that remedial and protective measures should not be carried to the extreme so as to incur risk. The great success that has in so many ways attended the management of this registered hospital renders the occurrence all the more regrettable. On referring to the last published report of the Commissioners in Lunacy we see that they say: "We found the hospital throughout in excellent order, and the patients generally contented."

THE ILLNESS OF THE CZAR.

THE grave news received from Livadia during the past week affords no very reliable hope that the Czar, whose marvellous vital energy has prolonged his illness beyond what might have been anticipated, will again rally as he did last week from the condition of cardiac failure which is clearly now predominating. The supervention of hæmoptysis and of signs of lung consolidation points too plainly to the circulatory stasis which has been established in the lungs, whilst the increase of the dropsical effusion, in spite of the temporary relief afforded by acupuncture, proves that the power of drugs to restore the cardiac energy has been exhausted. As we write the bulletins succeed one another with the same ominous tenour, so that we fear that even before this is in the hands of our readers the end of the illustrious patient's sufferings may have arrived.

As we go to press we have received intimation of His Imperial Majesty's death.

THE RESIGNATION OF SIR HENRY ACLAND.

THE profession will learn with unmingled feelings of regret that Sir Henry Acland has placed his resignation of the Regius Professorship of Medicine at Oxford University in the hands of the Prime Minister, to take effect at the end of the year. This is not the time to examine and review his services to science and to medical study and research, though they have been so long continued and so conspicuous as to take firm hold of the public mind and to distinguish him as one of the most energetic workers and thinkers of the present day. During his professorship medical teaching in Oxford has witnessed a great revival, and the fame of that ancient seat of learning no longer rests exclusively on its cultivation of classical literature and metaphysical speculation. Learned corporations at home and abroad have honoured him with their diplomas, and have welcomed him as one of their members. Thirty years ago he was recognised by the Legislature as an authority on hygiene and sanitation, and as a member of Royal Commissions was enabled to give official utterance to his views. How greatly his medical brethren have appreciated his administrative talents appears from his occupying the Presidential chair of the General Medical Council from 1875 to 1887. Seldom has a position of dignity been more worthily filled. Apart from the office of President, his devotion to the work of the Council has been remarkable. His own university first sent him as its representative, and he continued to be a member for twenty-nine years without being once absent from its sittings. The British Medical Association elected him to be its President; he has also filled like positions in the Public Health Section of the Social Science Association, and the Physiological Section of the British Association. Sir Henry Acland has, we all know, the highest of conceptions of medicine in its relation to society and the State. On such a subject no one was or is by official and social position better qualified to form an opinion. His birth and education guaranteed from the very first his admission among the more highly placed of his countrymen and his social distinction was ensured as long ago as 1860, when he accompanied the Heir Apparent to America. The confidence of Royalty in his abilities and discretion was additionally marked by his appointment as Physician to H.R.H. the late Prince Leopold during his Oxford career. In these posts of honour, as well as on less exalted occasions, Sir Henry Acland has represented his profession with unvarying dignity and success. Such a record of work accomplished entitles its doer to repose, and it is our earnest hope that Sir Henry Acland may for many years to come enjoy health to enable him to appear among his medical brethren in public, as he did, to our gratification, on the recent occasion of the delivery of the Harveian Oration.

DIPHTHERIA IN LONDON.

THE number of cases of diphtheria recorded from week to week in London has for some weeks past been practically the same, although the *locale* has of course changed from time to time. But the deaths have fluctuated to a considerable extent, and showed last week a decided improvement on the records of all of the preceding six weeks; whilst in the first three weeks of October the fatal cases were 66, 54, and 61 respectively, they were last week only 49, a fall of nearly 20 per cent. Still, the deaths were, none the less, 12 in excess of the corrected decennial average for the particular week. On the closing days of the three weeks ended with last Saturday the numbers of patients under treatment were as near as possible identical—namely, 521, 521, and 523 respectively. The cases admitted to hospital last week were 94 in number, against 106 and 96 in the preceding two weeks. The deaths were distributed widely over the metropolis, including 5 in Greenwich, 4 in Islington, 4 in Hackney, and 3 each in Kensington, Fulham, Bethnal-green, Poplar, Newington, and Battersea. In the outer ring of London there were last week 27 deaths, including 16 in West Ham, 4 in Bromley, and 2 each in Kingston and Edmonton.

"ACUTE CHRONIC DILATATION OF THE HEART OF NERVOUS ORIGIN."

UNDER this heading Dr. Jacob of Cordowa[1] describes a morbid condition of which for several years he has taken considerable notice, characterised by rigors varying in severity from a simple sensation of chill to most violent shivering. Accompanying this symptom with varying frequency are met pains over the surface of the body, more seldom in the muscles and in the abdomen; sometimes also vertigo, dimness of vision, and loss of consciousness lasting several hours. The patient nearly always complains of a sense of pressure or pain in the region of the heart and shortness of breath. There is generally a sensation of fear, sometimes approaching to that experienced in angina pectoris, especially when the period of unconsciousness is approaching. In such cases actual severe dyspnœa is absent, although the patient complains of being short of breath. The subjective cardiac sensations are described as above, or the sufferer feels that the heart seems to stop beating, or sometimes the reverse—that there is violent palpitation. The surface of the body feels cold, and there is a certain amount of analgesia, as a pin may be pushed deeply into the muscles without pain being complained of. If strong friction be then applied to the skin a sense of relief is experienced rather than pain. The face is extremely pale, and if vertigo and loss of consciousness supervene the pupils are widely dilated. The pulse is either slowed down to 50 per minute or accelerated up to 200, but is

[1] Internationale Klinische Rundschau, No. 40, 1894.

always small, hard, and scarcely to be felt. The area of cardiac dulness is increased, sometimes very considerably, and the apex beat is correspondingly displaced. If the pulse is slower than normal the patient finds ease in assuming a standing position and walking up and down during the remissions; at the same time the breathing is deep and difficult. If the pulse is very rapid the patient is obliged to lie down, and the respiration is frequent and shallow. If the attacks last for a long period pulmonary œdema follows with albuminuria. Relief from the attack when it once sets in is usually rapid; the subjective symptoms soon disappear, but it is about a week before the cardiac dulness regains its natural dimensions. The rigor, hard pulse, and dilatation of the pupils are doubtless symptoms of arterial spasm. The brachycardia and tachycardia may also be explained as spasm of the arteries, without the vagus or accelerating nerves being involved. Owing to spasm of the vessels, and consequently increased arterial pressure, the heart, although the muscles may be healthy, cannot fully contract and empty itself, and consequently becomes more and more filled with blood, and thus acute dilatation occurs. The most satisfactory treatment would seem to consist in hypodermic injections of morphia in fairly large doses. Digitalis is contraindicated.

IS FRIED FISH A NUISANCE?

A NOVEL case, in which the opinion of the medical officer of the city of Chichester was upheld by the magistrates, was heard on Saturday, Oct. 27th, when a fishmonger named James Sansom, living at 34, North-street, was summoned for "causing an effluvium which was a nuisance." The corporation prosecuted, and the defendant was legally represented. The city surveyor and inspector of nuisances, when asked if he regarded the shop where fried fish was sold as a nuisance, said he "should not care to live next door." A memorial signed by twenty-seven residents in the street was produced, and it was stated that the frying produced "a general closing of doors and windows." The surveyor put the smell down to fried fish, dried fish, and fresh fish. The medical officer of health (Mr. C. Sturges Jones) said he had heard complaints, and found the smell anything but agreeable. As a matter of fact, the fish was not fried but boiled in oils. He had never seen bad fish on the premises. The smell from the "fried" fish was, however, offensive, and what would generally be called a nuisance. For the defence it was argued that the Bench could not hold the defendant's business to be a nuisance unless the whole business of selling fried fish all over the country was objectionable; but the defendant was fined 40*s.* and 12*s.* costs, or seven days' imprisonment. The question which the magistrate had to decide in this case is whether the defendant had adopted "the best practicable means for abating the nuisance." That fried fish shops cause nuisance is undoubted, and this nuisance is in part dependent on the character of the oil used in the process of frying. The inferior cotton oils are largely used for this purpose, and there is often neglect to employ a hood to receive the fumes and to convey them to the chimney-shaft. As a matter of fact, nothing but the conduct of the business in a closed chamber would prove effectual, and this probably would not be regarded as "practicable," but there ought to be some effort made to prevent the odours escaping into the external air. The consumption of fish cooked in this manner is very general among poor persons; for them it is a necessary of life, and so long as there is no neglect in the process of cooking the inhabitants of the neighbourhood are likely to be tolerant of the inconvenience it causes. The argument that if the defendant's business was held to be a nuisance the whole trade of selling fried fish must be considered so is beside the point; and the magisterial decision must be held to show that in their opinion the best practical means for abatement of an undoubted nuisance had not in this particular case been adopted.

THE AMIR OF AFGHANISTAN.

THE latest news from Cabul shows that the Amir's health has greatly improved and is still improving, so that His Highness is able to attend to business.

DIVER'S PALSY.

DR. SHARPLES, in the last number of the *Journal of Nervous and Mental Diseases*, gives a clinical account of this condition and an anatomical description of the changes found in the cord of a patient. The patient was a man who had for some years intermittently followed the occupation of a diver in deep water. For two weeks before the onset of his illness he had been diving to the depth of over 200 feet, often remaining half an hour under water. He used the ordinary diving dress and helmet. On April 26th, 1893, he dived for the fifth time, and returned to the surface sooner than usual. As soon as his helmet was removed he complained of sharp pains in his arms and legs, and almost at once became unconscious. He remained so for an hour and a half. On regaining consciousness he complained of shooting pains in his arms and fingers, which were aggravated by movement. Motor power in the arms and legs was completely abolished; sensory power was impaired in the arms and absent in the legs. The sensory impairment extended as high as the neck. The bladder and rectum were both paralysed. In about two weeks mucous râles were audible in the chest on both sides, and there was dulness over the bases of the lungs. Bedsores also began to form, cystitis was now present, and the rectum remained paralysed. No knee-jerk was found on either side. The condition of the patient gradually became worse and the paralysis did not improve. He finally died with a high temperature, the result, doubtless, of septic absorption from his extensive bedsores. The necropsy was made thirty-six hours after death, and the cord was found to be very soft and in parts almost diffluent. After hardening and staining, changes were found, chiefly in the cervical and dorsal regions, the lumbar region being apparently normal; they consisted of softening in the posterior column and also in the lateral. Similar changes were found in the dorsal region, but were much less extensive. The conditions found were apparently the result of softening and inflammatory changes, presumably secondary to hæmorrhage occurring at the time of onset; but it certainly is curious that no definite trace of such hæmorrhage was found, and especially that there should have been no change in the lumbar region with such paralytic symptoms as were present.

A GREAT many well-known people were present at the Royal National Hospital for Consumption, Ventnor, on Oct. 22nd, on the occasion of the unveiling of a memorial portrait of Dr. Arthur Hill Hassall, the founder of the institution. Sir Richard Webster, Q.C., M.P., gave a sketch of the career of Dr. Hassall, more particularly of that part of it which was connected with the founding of the hospital, and mentioned, as an illustration of the benefits that had been conferred by the institution, that since the admission of the first patient in 1869 12,516 patients had been treated there. He concluded with an earnest appeal for contributions to the funds of the hospital, pointing out that the expenses were £11,000 annually and the regular income only £7306. Miss Webster then unveiled the portrait, in oils, of the late Dr. Hassall, which has been executed by Mr. Lance Calkin. At the conclusion of the ceremony Dr. Coghill in an interesting speech described the plan and system of the hospital.

ON Wednesday last a largely attended meeting of the General Committee formed to promote the arrangements for the meeting of the British Medical Association in London next August was held at the Marlborough Hall, Regent-street, Dr. Russell Reynolds, President-elect of the Association, in the chair. The secretary of the Metropolitan Counties Branch, Mr. Andrew Clark, stated that upwards of 1100 members had signified their wish to serve on the committee. The business of the meeting consisted in the formation of various sub-committees to carry out the financial, social, and other arrangements of the annual gathering.

THE friends of the late Dr. Beaven Rake of Trinidad met at the house of Dr. P. S. Abraham, 2, Henrietta-street, Cavendish-square, W., on Thursday, Nov. 1st, at 5 P.M., to consider the best means of commemorating his life and work, and of assisting, at the same time, his widow and children. It is proposed to invite subscriptions towards the republication, in a memorial volume, of Dr. Rake's more important contributions to medical science, and to utilise any surplus for the benefit of his family.

AT a meeting of the house committee of University College Hospital on Oct. 31st it was resolved that after December next the resident medical officers should cease to pay for their board. This applies to eight house physicians, six house surgeons, and four obstetric assistants in the course of the year, and the advantage to the students, therefore, is considerable; we congratulate the committee on its judicious and well-directed liberality.

AT the last meeting of the Metropolitan Asylums Board it was resolved, on the motion of Dr. Bridges, to refer to the General Purposes Committee the question "whether, and if so what, facilities should be given to the superintendents of the various fever hospitals to make trial of the remedy for diphtheria which is now under the discussion of the medical profession."

DR. ROBERT BARNES, as honorary president of the Glasgow Obstetrical and Gynæcological Society, will address the society at its meeting at 5.30 P.M. to-day (Friday). The subject of the address is "The Illustration of General Physiology and Pathology by the Study of Menstruation and Gestation."

THE first meeting of the Epidemiological Society of London for this session will be held at 11, Chandos-street, on Friday, Nov. 16th, at 8 P.M., when the President, Mr. Shirley F. Murphy, will deliver his inaugural address on the "Study of Epidemiology."

THE *Pioneer Mail* of the 11th ult. states that an exhibition under the auspices of the Indian Medical Congress will be held in Calcutta between Dec. 24th and 29th next.

THE *Gazette* of Oct. 30th contains the official notices that the Queen has granted a Baronetcy to Dr. John Williams, and a Companionship of the Bath to Dr. L. S. Jameson.

THE annual dinner of the Metropolitan Police Surgeons' Association will be held at the Criterion Restaurant on Tuesday, Nov. 20th, at 7 o'clock.

MR. HENRY HARBEN has promised £4000 towards the erection of a convalescent home near the seaside for working men of Hampstead and Kentish-town, London.

DR. VIQUERAT'S TREATMENT OF TUBERCULOSIS.

OUR readers have had before them Dr. Viquerat's report upon twenty-five cases of alleged tuberculous affections,[1] and a critical article from Dr. Arthur Gamgee, F.R.S., Emeritus Professor of Physiology in Owens College, Manchester,[2] dealing with the details of Dr. Viquerat's method of treatment and founded mainly upon information received from the author of the treatment. The Société Médicale de la Suisse Romande at its annual meeting on Oct. 11th was occupied with a discussion upon the same treatment, and at the close of the debate the resolution was unanimously passed to the effect that in the absence of proof the society is "unable to give any opinion (*émettre aucune appréciation*) on the subject of the treatment of tuberculosis by the process of Dr. Viquerat." From the ample report of the meeting which appeared in the *Journal de Genève* we learn that Dr. Viquerat, who spoke for upwards of an hour, devoted a large part of his remarks to the subject of immunity in general, and that he enunciated views as to the *modus operandi* of bacterial toxines which differ from those that are generally accepted. Thus it is Dr. Viquerat's belief that the virulence of a culture is not due to any product secreted by the micro-organisms, but to the death of the latter, whose bodies furnish the toxine; and, as glycerine favours such bacterial dissolution, the toxic property of tuberculin, a glycerine extract of tuberculous bacilli, is explained thereby. Moreover, he thinks that the diminishing tendency to infective disease as life advances may be due to the fact that immunity is gradually conferred through the ingestion and assimilation of the numberless pathogenic bacteria that an individual must swallow every day of his life; and on this somewhat fanciful speculation he bases his theory of tuberculosis—namely, that the individual attacked has been unable to digest all the bacilli that he has taken up, and the rest, multiplying and dying, supply the blood with tuberculin, which only serves to spread the disease. Now, in his view, the blood of the ass can neutralise tuberculin, and hence the normal immunity of this animal to the disease. Since his first communication on the subject Dr. Viquerat has modified his method by injecting into the veins of the animal some cultures of tuberculous bacilli previously to using the blood as a source of the serum therapeutics. The society was disappointed at not seeing cases which were under treatment. Dr. Viquerat simply announced that he had cured twenty-five tuberculous patients and exhibited two cases—one of lupus, which was not cured, and one of empyema, which may not have been tuberculous—in which the serum injections had been practised. Dr. Bourgot of Lausanne said that he had had under his care one of the persons who had been injected by Dr. Viquerat; this patient only exhibited signs of bronchitis and emphysema, and he had never been able to find any evidence of tubercle in him. *Per contra*, Dr. Bouvier related how a guinea-pig which had undergone "intensive treatment" with Dr. Viquerat's serum had died "stuffed full of tubercle." Dr. Léon Revilliod gave the results in his clinic of the use of some serum which had been handed to him by Dr. Viquerat. Three patients were injected. In two of them—after seven or eight injections, mostly made every other day—no change in either direction was observed; in the third the disease made rapid progress whilst under the treatment. Dr. Revilliod protested against the premature publication of the subject in the public press and hoped that in the future further observation would be first submitted to scientific circles. He invited Dr. Viquerat to produce at a subsequent meeting some proof of the efficacy of his treatment, with full details of his laboratory experiments and clinical observations. We cannot do better, in conclusion, than echo the hope expressed at the close of the report from which we quote—namely, that "this question will at length take the path it should have followed from the first: patient research, serious control, detailed publication of experiments, and observations in the medical journals." It is on this ground that we abstain from publishing a communication on the subject we have received from a practitioner in the West-end of London, believing, with him, that it would be as well to await the result of a more extended trial than that given to the three cases which he relates.

[1] THE LANCET, Sept. 29th, 1894.
[2] THE LANCET, Oct. 6th, 1894.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A MEETING of this College was held on Oct. 25th, the President, Dr. Russell Reynolds, in the chair. Drs. J. F. H. Broadbent, S. Buckley, R. H. P. Crawford, G. E. M. Wood, Mr. H. Head, and Mr. F. M. Sandwith were admitted to the Membership, and Licences were granted to those who had passed the recent examinations.

Communications were read from the Royal College of Surgeons; from Surgeon-Colonel R. Harvey, M.D., President of the Indian Medical Congress, inviting the College to send a representation to Calcutta in December next; and the report of the General Medical Council in the Examination in Public Health was received.

The quarterly report of the Finance Committee was received, and the treasurer presented the audited accounts of the College for the past year.

Sir W. O. Priestley presented a report of "The Sir Andrew Clark Memorial" Committee.

It was enacted for the second time, on the motion of the Registrar, that Dr. Robert Harvey, being resident in India, be admitted a Fellow of the College *in absentiâ*.

Dr. Poore and Dr. Seaton, who represented the College at the recent International Congress on Hygiene at Budapest, gave an account of the cordiality of their reception and of the work of the Congress.

Reports were received from the Committee of Management and from the Laboratories Committee; and Dr. Norman Moore and Dr. Payne were re-elected members of each of these committees respectively.

The Jenks Scholarship Committee awarded the scholarship this year to Thomas Chatwood, who had entered at St. Bartholomew's Hospital; and, on the recommendation of the committee, it was resolved to make the nomination in October in each year.

The quarterly report of the Examiners for the licence was received.

SMALL-POX AND VACCINATION.

LEITH.

DR. R. BEVERIDGE has issued a succinct analysis of the epidemic of small-pox at Leith in 1893-94. From Nov. 10th, 1893, to Aug. 20th, 1894, there had been 405 patients admitted to hospital; 22 of these were not cases of small-pox. Of the 383 small-pox cases 217 were males and 166 females; 69, or 18 per cent, were under fifteen years of age, and 314, or 82 per cent., were above that age. There were 50 deaths, giving a fatality of 13 per cent., which, Dr. Beveridge remarks, is above the average fatality in small-pox and indicates a severe type of the epidemic. The mortality amongst the male sex was higher than that amongst the females, the ratio for the former being 15 per cent. and for the latter 10 per cent. There were 7 deaths amongst those below fifteen years of age—i.e., 14 per cent. of the whole number—whilst 43 of the fatal cases, or 86 per cent. of the whole number, were above that age.

As regards vaccination, 332 were vaccinated, 25 of whom died, giving a mortality of 7·5 per cent.; 20 were unvaccinated, of whom 10, or 50 per cent, died; and 31 were returned as doubtful—i.e., were stated to have been vaccinated, but bore no marks. Of these, 15, or 48·3 per cent., died. Analysing these according to age it is shown that among the 54 vaccinated subjects below fifteen years of age there were no deaths, the 25 fatalities occurring among the 278 above fifteen years. Of the unvaccinated, 13 were below fifteen years of age, and 7 of them died; 7 were above fifteen years, and 3 of them died. Of the doubtful group all but 2 were over fifteen years of age, and amongst these occurred the 15 deaths. It is further shown that the mortality rose in each decennial period beyond the age of fifteen years. An instructive table is given in which the degree of vaccination in relation to mortality is brought out. Thus, among those (all being above fifteen years of age, since no vaccinated subject below that age died) who bore "one good vaccination mark" there were 75 cases and 6 deaths, or 8 per cent.; among 28 with "one indifferent mark" there were 8 deaths, or 28·5 per cent.; among 134 with "two good marks" there were 8 deaths, or 5·9 per cent.; among 28 with "two indifferent marks" there were 2 deaths, or 7 per cent.; among 9 with "three (and 1 with four) good marks" there were no deaths; and among 4 with "three indifferent marks" there was 1 death, or 25 per cent. "There was no case in the revaccination class. In this connexion it may be mentioned that there were several patients suffering from concurrent vaccination and small-pox; but the course of their illness showed that they must have received the infection of small-pox previous to the time that they were vaccinated. In no case did a person who had been successfully revaccinated and had recovered therefrom suffer from small-pox." Dr. Beveridge further points out that 9 infants admitted with their mothers (who were suffering from small-pox) did not contract the disease; of these infants 4 were successfully vaccinated for the first time in hospital, and 5 had been vaccinated when younger. This testimony to the efficacy of vaccination is further strengthened by the statement that "during the epidemic there was a total of about fifty servants (nurses &c.) in connexion with the hospitals; none had suffered from small-pox previously; all had been successfully revaccinated, and none of them developed small-pox."

HINCKLEY.

Dr. William Young, late medical superintendent of the Hinckley Small-pox Hospital, in his report on the outbreak of small-pox in that district, March to July, 1894, points out that until May 29th there was no provision for isolating the patients. On that date a Humphreys' building to accommodate 24 patients was opened, and by June 3rd this building was filled, necessitating the erection of additional marquees, for by June 18th as many as 85 patients were under treatment in hospital. The total number of cases in the district during the outbreak was 118, of whom 108 were treated in hospital. There were in all 10 deaths—a mortality of 8·4 per cent.,—6 of these only being among the hospital cases. Of the 118 cases 99, or 83·8 per cent., were vaccinated, and 19, or 16 per cent., unvaccinated. Of the deaths, 7 were vaccinated and 3 unvaccinated subjects, so that the mortality among the vaccinated was 6·7 per cent. and among the unvaccinated 21·4 per cent. Of the 99 vaccinated cases, 1 had no marks, 10 had one mark, 11 had two marks, 30 had three marks, 36 had four marks, 2 had five marks, 1 had six marks, and 1 had seven marks; and the fatal cases were thus distributed—1 with one mark, 1 with two marks, 2 with three marks, and 2 with four marks. It is pointed out that four marks are the usual number in the district, a statement borne out by the examination of 95 vaccinated persons employed in a factory, 45 of whom had four marks, 26 three, 17 two, and 5 one mark. Two cases had been revaccinated, one thirty-four years and the other twenty years before this illness, both being very mild attacks. Five other cases had been successfully revaccinated within fourteen days of their becoming ill, and all were very mild cases. Of 22 cases under fifteen years of age among the attacked, 16 were unvaccinated, 3 of whom died. One vaccinated subject (three marks) aged fourteen years also died. The remaining fatal cases were, with the exception of 1 patient aged twenty-five, in persons aged from forty to fifty-six years. A house-to-house visitation in a crowded part of the town gave, out of 110 children under ten years, 86 vaccinated, or 7·8 per cent., and 24 unvaccinated, or 21·8 per cent. It will be seen that this proportion is reversed amongst those attacked with small-pox under ten years of age, for of 17 cases, 2, or 11·8 per cent. only, were vaccinated, whilst 15, or 88·2 per cent., were unvaccinated. It is shown that there were confluent attacks in 64 per cent. of the unvaccinated cases and in 40·3 per cent. of the vaccinated (5 per cent. of whom had one mark, 6 per cent. two marks, 67·5 per cent. three marks, and 21·5 per cent. four marks). Of the resident staff of the hospital, numbering fifteen, who had been recently vaccinated, or vaccinated on taking up their duties, not one developed small-pox.

ENTRIES AT THE MEDICAL SCHOOLS.

BY the courtesy of the Deans and Registrars of the various medical schools and universities we are enabled to present to our readers an analytical table showing the number of students who have entered during the present session, and in some cases the number of those also upon the rolls of the

institution, from the first to the fifth year and upwards. At many of the schools the entries are probably still incomplete, but show approximately the distribution of students among the different centres of medical education in England and Wales. In the analysis of new entries we have pointed out, by means of a footnote, as far as we have been able to do so, where the total includes or excludes the preliminary science students. In one or two cases the London Schools of Medicine show a falling off in their number of entries, and the same applies to the provincial schools, and to one of the universities. No marked increases call for any special attention or require any special reason to account for them.

The Irish and Scotch Schools have practically only just begun work, and the present figures relating to their entries afford no index to the actual number of students likely to enrol themselves during the winter session.

Name of School.	Analysis of new entries.					Number of students at present on the roll.					
	General students.	Special or occasional students.	Dental students.	Preliminary science students.	Total.	First year.	Second year.	Third year.	Fourth year.	Fifth year and upwards.	Total.
London Schools.											
St. Bartholomew's Hospital	119	48	2	24 [6]	193	—	—	—	—	—	—
Charing-cross Hospital	24	32	30	2	88	54	56	52	29	22	213
Guy's Hospital	89	36	41	28	194	—	—	—	—	—	—
King's College Hospital	28	87 [4]	—	8	123	—	—	—	—	—	—
London Hospital	51	92	—	10	153	51	64	43	35	80	273
Middlesex Hospital	27	17	12	7 [1]	63	27	28	28	64	67	214
St. George's Hospital	35	2	—	6 [3]	37	†	†	†	†	†	—
St. Mary's Hospital	76	68	—	12	156	76 [2]	70 [2]	61 [2]	76 [2]	—	—
St. Thomas's Hospital	50	16	—	8	74	—	—	—	—	—	—
University College Hospital	41	49	—	78	168	—	—	—	—	—	—
Westminster Hospital	15	11	—	6	26 [8]	26	18	11	15	34	104
School of Medicine for Women	29	20	1	—	50	29	23	26	31	39	148
National Dental Hospital	—	6	13	—	19	—	—	—	—	—	—
Provincial Schools.											
Bristol Medical School	25	1	—	— [7]	26	—	—	—	—	—	—
Cambridge University	—	—	—	—	139	—	—	—	—	—	—
Durham University	36	—	1	—	37	37	35	32	33	36	173
Mason College, Birmingham	30	34	14	18	96	...	...	...	...	...	250 [2]
Owens College, Manchester	43	68	4	61	115 [5]	—	—	—	—	—	—
Sheffield School of Medicine	9	5	—	4	18	12	11	—	—	—	60
University College, Liverpool	22	12	18	22	74	—	—	—	—	—	—
Yorkshire College, Leeds	25	9	1	22	57	—	—	—	—	—	—

[1] Including general students. [2] Approximately. [3] All general students. [4] Including bacteriology.
[5] Exclusive of preliminary science students. [7] Preliminary science students enter to the Faculty of Science and Arts.
[6] Students who have also entered for the full course are not included. [8] Including preliminary science students.
† Returns not complete.

CHOLERA.

CURRENT NOTES, COMMENTS, AND CRITICISM.

THE reports that reach us from time to time from India of the practice and results of M. Haffkine's inoculations against cholera cannot fail to be watched closely and followed with interest. It may be said at once that, though the number of people in India already inoculated is large and daily increasing, no decisive test of the efficacy of the practice has yet presented itself. But it may be useful to sum up the results so far obtained and the indications afforded by them while waiting for more extended observation.

In a memorandum to the Calcutta Corporation in April, 1894, Dr. Simpson announced that 25,000 inoculations at that time had been performed in India by M. Haffkine and his coadjutors. A list of these inoculations in the *Indian Medical Gazette* of June shows them to have been performed upon Europeans, sepoys, Maharajahs, coolies, and others throughout the country. At that time, however, in Upper India, where inoculation has been chiefly practised, there had been no epidemic cholera, and a few cases of inoculation in places where cholera was present in Calcutta were the only instances that tested its preventive power. But since then there have been two notable experiments: one during an outbreak of cholera in Gya gaol, reported on by Surgeon-Major Macrae, and the other during the formidable outbreak among the troops of the East Lancashire Regiment at Lucknow. In addition, Dr. Simpson has recorded the results of further inoculations in Calcutta.

Four cases of cholera appeared among a population of 200 persons living round two tanks in Kattal Bagan Bustee, in Calcutta, at the end of March. At that time 116 of these were inoculated, none of whom subsequently contracted cholera, while 9 cases and 7 deaths occurred among the remaining persons who were uninoculated. Five of these 9 cases were the only ones attacked in five respective houses, the occupants of which had in some instances been inoculated and in others not. The remaining 4, however, occurred in one house of 18 inhabitants, 11 of whom had been inoculated. Dr. Simpson also gives particulars of cholera found at different times to have occurred in houses which contained people previously inoculated. He gives particulars of seven houses, containing in all 111 people, of whom 51 who had been inoculated have had no attacks of cholera among them this year, while 60 not inoculated have had 7 cases of cholera and 5 deaths. It is obvious that to eliminate the peculiar sporadic incidence of cholera in the complex population of Calcutta a considerably larger number of cases than this is required to point to any definite conclusion; but the absence so far of any cholera among those inoculated is noteworthy, the more because the time between the inoculations and presumable exposure has been very variable. Thus, in three houses inoculation had been made a month or more before cholera attacked any of the inmates; but in three other houses the inoculated inmates had five, three, and two days only of protection (and this presumably from "first vaccine") before cholera appeared in them.

A more exact experiment is found in the outbreak reported from Gya gaol. Cholera broke out there on July 9th, and from that date to the 17th 6 cases occurred, with 5 deaths. On the 18th M. Haffkine inoculated 147 prisoners, and on the 19th 68, a total of 215 out of 433 present in the gaol at that date. The necessary secondary inoculations were performed

four or five days later. The division is thus described by Surgeon-Major Macrae: "Being purely voluntary, no selection of prisoners was possible; but all classes in the gaol were represented: male and female, old and young, habituals and less frequent offenders, strong and weakly, convalescent and even hospital patients sent their representatives. No difference of any kind was made between inoculated and non-inoculated prisoners; they were under absolutely identical conditions as regards food, water, accommodation, &c.—in short, in every possible respect."

From this time to Aug. 2nd, when the last case occurred, the two classes were treated under exactly similar conditions, and when it became necessary on July 25th to remove the greater portion of the prisoners into camp the inoculated and uninoculated were represented in fairly equal proportions among those who stayed and those who were removed. The cholera record in such circumstances becomes very instructive. It is summarised in the following table in Surgeon-Major Macrae's report. No. 1 represents from July 20th to 24th, when all were in the gaol; No. 2 from July 25th to Aug. 2nd, for those remaining in the gaol; and No. 3 for the same period for those in camp:—

—		Average present.	Cholera.	Percentage of average strength.	Deaths.	Percentage of average strength.	Percentage of deaths to cases.
No. 1.	Inoculated... ...	211·2	5	2·37	4	1·89	80·0
	Not inoculated...	209·0	7	3·34	5	2·39	71·42
No. 2.	Inoculated... ...	32·5	1	3·07	Nil.	Nil.	Nil.
	Not inoculated...	48·55	7	14·42	3	6·18	42·86
No. 3.	Inoculated... ...	171·42	2	1·16	1	0·58	50·0
	Not inoculated...	146·5	6	4·09	2	1·36	33·33

It is apparent from this that any protective influence of the inoculations became manifest increasingly towards the end of the period—that is, after a certain incubation. This is seen in Table V. of the report.

—	During the first five days after first inoculation.		First three days after second inoculation.		Last six days.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Inoculated ...	5	4	3	1	Nil.	Nil.
Not inoculated.	7	5	5	3	8	2

(It may be noted that in each of the periods of this table the number of inoculated and uninoculated was, within a few units, identical.) Surgeon-Major Macrae's conclusion is that the temporary beneficial effect of the inoculation is undoubted, whatever the future may show as to the permanence of the protection afforded.

The remaining experiment of importance occurred during the outbreak of cholera in Lucknow, when it attacked one of the regiments (the East Lancashire) in cantonments in July, having been present in a virulent form among the native population some months previously. The total strength of the regiment at the time of the attack was 773, of whom 133 had been inoculated in May of the previous year. Of 620 not inoculated, 120, or 18·7 per cent., were attacked, and 79, or 12·3 per cent., died; while of 133 inoculated 18, or 13·5 per cent., were attacked, and 13, or 9·7 per cent., died. It is noteworthy that the difference, slight as it is, was maintained in both parts of the regiment when about half the strength was subsequently removed into camp. Yet when we learn that the total attack-rate in camp among 374 men was 26·5 per cent., while that among 399 in cantonments was 9·7 per cent., it would appear that we have to do with a greatly varying incidence of cholera, and it is difficult under such circumstances to attach much importance to a difference between inoculated and uninoculated that would have been destroyed had 7 more attacks occurred in the inoculated class. Dr. Simpson, in commenting on this outbreak, expresses an opinion that a degree of protection has been shown and, as a reason for its not being greater, points to the malignant type of the cholera prevalent, and to the fact that the Lucknow inoculations had been among the earliest and therefore performed with weaker doses than is now customary; but had a protection been present, though only partial, we should have expected, on the analogy of vaccination, to find a decreased severity among the inoculated. Of the 18 cholera cases in the inoculated, however, 13 or 72 per cent., were fatal, while of the 120 uninoculated 79, or 66 per cent., were fatal. We may conclude that though the experience of Lucknow does not indicate that M. Haffkine's inoculation in its present form constitutes a durable protection against cholera, yet there appears to be on the whole better ground for believing it to afford a transient immunity—which might prove of great value in face of an epidemic; and if this should prove to be the case a great advance will have been made towards the discovery of a method of more permanent protection.

Although cholera has not altogether disappeared, it is steadily decreasing in Galicia and Bukovina, but a few cases have recently made their appearance in Moravia. According to the latest reports 52 cases had occurred in Galicia and 6 deaths in Bukovina in the course of twenty-four hours.

As regards Russia, it has been announced officially that cholera has disappeared from the provinces of Plock, Grodno, Lomsha, Mohileff, Esthonia, Radom, Siedlec, Krestroma, Olonetz, and Pskov. The city of Warsaw is also declared to be free from the disease, and no fresh cases of cholera were reported in St. Petersburg on the 24th ult.

The disease still manifests itself sporadically in Belgium. The *Courrier de Bruxelles* states that several cases, some of them fatal, have been recently recorded at Liège, Qupille, and Herstal.

TYPHOID FEVER AT HAVRE.

(FROM A SPECIAL CORRESPONDENT.)

TYPHOID FEVER is endemic at Havre. Anyone who has seen the narrow, dark streets, the tall, dilapidated, overcrowded houses, the filth that results from the absence of any system of drainage, and has smelt the odours that prevail throughout the poor quarters, will not be surprised that what is often called "sewage fever" should prevail in such a town.[1] On the contrary, it would indeed be surprising if typhoid fever did not exist at Havre. Fortunately, there is at Havre a Bureau d'Hygiène, instituted by Dr. Gibert, a thoroughly competent hygienist. Though this office has no compulsory powers, it is, in any case, able to keep a very full and skilfully prepared record of what is occurring in the town. If, therefore, the municipality have not yet taken any effective measures it is not for want of information as to the necessity of medical sanitary reform. Former epidemics should have been warning enough. Next to Hamburg, of the large towns of Western Europe, Havre suffered the most from the cholera epidemic of 1892. What then occurred was very fully described in THE LANCET of Oct. 22nd and 29th, and Nov. 12th of that year. The first-mentioned report was illustrated by a map showing where the deaths from cholera had taken place; in a second map the dwelling-places of the 697 victims of the typhoid fever epidemic of 1887 and 1888 were depicted. Now another map is in course of preparation showing the deaths from typhoid fever which have taken place this year. All three maps coincide exactly with each other. The same quarters, the same streets that suffered most from typhoid fever in 1887 and 1888 were the principal centres of cholera in 1892 and again this year from typhoid fever. These maps present two very interesting features, explained at the time of their publication. The first was that, though the higher quarters of Havre, where the wealthy people live and luxurious villas are built, used to be absolutely free from typhoid fever, they are now no longer exempt from this disease. The reason given for this disastrous change is the building of two huge sewers across the natural flow of the subsoil waters. These waters are fouled by numerous *bétoires* or leaking cesspits, into which the slop-water is thrown, and whence it filters away into the surrounding subsoil. Formerly this dirty water flowed to the lower portions of the town, but the walls of the new large sewers acted as a sort of dyke, and retained some of this drainage water in the upper part of the town.

[1] THE LANCET, Cholera in France, Jan. 7th, 1893.

In any case there was no typhoid fever in the higher districts previously to the building of these sewers. Now this year again typhoid fever prevails in these elevated, aristocratic, and wealthy districts of Havre.

The second point of interest was the comparative immunity from both typhoid fever and cholera of a district called Le Perret. In respect to poverty and the general wretchedness of the dwellings this district equals the worst quarters of Havre, where the greatest number of deaths occurred. The dwellings, it is true, are not so elevated or the streets so narrow as in the quarters of St. François and Notre Dame, where the greatest number of cases of typhoid fever and cholera occurred, but in the suburbs of Granville and the Eure districts, which are not so central, cholera and typhoid fever prevailed with great intensity, and here the houses are as small and the streets as wide as at Le Perret. The difference between these latter districts and Le Perret rests on the fact that Le Perret is built on small flint stones, recently accumulated and thrown up by the sea; it forms a sort of elbow projecting into the sea, and the tide still rises and falls in the subsoil. At Le Perret it is only necessary to dig from three to five feet to reach salt water and to see the sea flow backwards and forwards. Thus, all filth that sinks into the soil under this district is washed away twice a day, and the inhabitants, though suffering from all the disadvantages that result from extreme poverty, have this advantage, that they do not breathe foul emanations from the soil on which they live. This seems to be the most plausible explanation of the immunity they have enjoyed during previous epidemics. Still, it might be urged that this immunity was the result of some chance factor and was not likely to be renewed. Under these circumstances the present outbreak of typhoid fever at Havre is of considerable theoretical interest. In the month of April last there were four deaths from typhoid fever at Havre. There was nothing notable in this, the disease being endemic in the town. But in the month of May there were 21 deaths, and it then became evident that an epidemic had commenced. In the month of August there were 64 deaths. Now the epidemic is subsiding. Last week there were but 4 deaths. Altogether during this year up to the end of October 203 deaths from typhoid fever have taken place at Havre; but what is most important to note is that the present epidemic has followed exactly the same course as the previous epidemic. The greatest mortality is noted among persons aged from ten to thirty years. An attempt has been made to attribute the present outbreak to digging up the soil to lay down pipes for an increase of the water-supply; but this supposition is not borne out by the facts of the case. In the district where there has been the greatest number of cases the work was terminated a year previously to the occurrence of the fever. Most of the earth was dug up in quarters where there has been little or no typhoid fever. Also care was taken to throw chloride of lime on the earth as it was moved about in the streets. By thus increasing the water-supply the town is now able to flush the gutters twice a day. Each time the water is turned on some sulphate of iron is put in the gutter near the water tap, and thus it is anticipated the gutters and the sewers will be in some measure disinfected. This, however, is but tinkering with the question. While the gutters continue to receive all the slops and some of the fæcal matter it is not a little more or less water, even if mixed with sulphate of iron, that will purify the streets. Thus, in spite of the extra watering of the streets, there has been yet another typhoid fever epidemic. More than two hundred lives have been sacrificed to the want of proper sanitation. Exactly the same streets, exactly the same quarters have suffered as in the previous epidemics. Le Perret, as before, has been exempt. Only two deaths have occurred on the sea-washed flint subsoil. In this, as in previous epidemics, a small cluster of cases will be found in the Perret district, which, however, are but the exception that proves the rule. These cases are situated immediately behind the old Battery of the Huguenots, where the thick masonry of this fortification impedes the flow of the tide and prevents that constant washing away of the dirt from under the houses which occurs in other parts of the Perret district. Of course, in speaking of Le Perret, the district with the special geological characteristic described above is meant. Some confusion has been caused by taking the statistics of the Perret electoral district to confute the theory here propounded. But as the electoral district extends into a part of the town where the geological formation is quite different the argument does not apply.

Not only has Havre suffered this year from typhoid fever, but there have been 43 deaths from diphtheria. The other day the Mayor and Dr. Gibert went to Paris to visit Dr. Roux and the Pasteur Institute. A subscription has been opened at Havre to purchase horses and establish the means of procuring serum for the treatment of diphtheria according to the new method. The greatest hopes are entertained as to the results likely to ensue. But the best of all measures that can be taken will be the draining of the whole town and the compulsory installation in each house of proper sanitary conveniences. Till this is done Havre will remain in its present unhealthy condition and epidemic will follow upon epidemic. This fact is fortunately now fully recognised, and the authorities are actively engaged studying what principle of drainage shall be applied. A technical commission has just been appointed for this purpose. It is to be hoped that they will not lose too much time in discussing rival processes and propositions, but come to a prompt decision, so that the works may be commenced with the least possible delay.

THE BREWERS' EXHIBITION.

THIS exhibition, which was held last week at the Agricultural Hall, has developed into one of more than ordinary interest—an interest that will no longer be exclusively enjoyed by those closely connected with the trade, but one which will be profitably shared also by those concerned in progressive dietetics and sanitation. Nor are the exhibits confined to that industry which the name of the exhibition would alone imply; on the contrary, it is probable that one of the most attractive features of the exhibition held last week was the beautiful, if elaborate, machinery designed for the manufacture of aerated water, and it is satisfactory to observe that, with the chief advances that have been made, great attention has been directed to sanitary improvements and to the production of pure and wholesome beverages, both alcoholic and non-alcoholic. Of course, a large section of the space in the Agricultural Hall is devoted to the exhibition of malt and malt products, hops and substitutes, sugars, and so on, which form the essentials of malt liquor brewing, which, although the centre of interest to the brewer, is nevertheless instructive to the ordinary visitor in affording him an excellent illustration of what improved cultivation may do, and of what a combined study of chemistry and agriculture will achieve. Beyond the fact, however, that the exhibits of this kind, as illustrated in pockets of hops or in samples of barley and malt, evidenced a high standard of excellence and quality, in spite of the difficulties of production in this country involved by foreign competition and unfavourable conditions of climate, we need record little.

In regard to novelties in brewing appliances and appurtenances, there were some of interest from more than one point of view. The "penny-in-the-slot tap," for instance, is an ingenious application of the "penny-in-the-slot principle," which is calculated to encourage both temperance and economy. It has the advantage of preventing anyone from obtaining beer without first paying for it, while it obviates waste and ensures the tapping of beer in good condition. It is the property of the Penny-in-the-Slot Tap Company, Newark-on-Trent. An important departure in the method of drawing beer is shown in the exhibit of Messrs. Farrow and Jackson, 16, Great Tower-street. It consists in allowing carbonic acid gas obtained from steel tubes to press slightly on the beer in the barrel, so that the liquid may be raised to the counter or any convenient height without a beer-engine. This system possesses several advantages, one of which is that the beer so drawn is always brisk and keeps better, not being in contact with the air, while the complex fittings of a beer-engine are advantageously dispensed with. Examples of modern methods of refrigerating attracted considerable interest. The exhibit of the Linde Company, for instance, of 35, Queen Victoria-street, E.C., whose method consists in utilising the cold produced on the evaporation of liquid ammonia, could hardly be passed without notice on account of the several pipes arranged in the exhibit sparkling with thick white frost. The production of cold by carbonic acid was illustrated by Messrs. J. Hull and Co. of Dartford, whose process is so satisfactory as to be used with considerable success in maintaining during the whole voyage of a ship a sufficiently low degree of temperature to keep many thousands of carcases of meat frozen. Still more

attractive to the public as an exhibit, perhaps, was the admirable display of soda-water machinery designed by such well-known firms as the Riley Manufacturing Company, Dan Rylands, Limited, Bratby and Hinchcliffe, Meadowcroft and Son, Chapman and Sons, Barnett and Foster, and Jackson and Co. In this section we did not fail to observe that the machines were so constructed as to provide against metallic contamination and to ensure the purity of both the gas and water employed. The manufacture of carbonic acid gas from various sources has now become a distinct industry in connexion with the manufacture of aerated water. Some makers keep to the old method of acting upon carbonate of soda or upon chalk with sulphuric acid; others use the purified gas obtained in the combustion of coke, and others the natural gas evolved at springs condensed into a liquid in steel tubes; while the carbonic acid gas, which was formerly wasted in large quantities in the fermentation vat of the brewer, is now recovered and stored for aerating purposes. Some excellent specimens of "solid gas" were shown by the Carbonic Acid Gas Company of Ancoats, Manchester, and bicarbonates and allied products formed the interesting exhibit of Messrs. Bowman, Thompson, and Co. of Northwich, Cheshire.

Of temperance drinks there was a great profusion, and some idea of the strenuous endeavours that are being made to provide the public with wholesome, palatable, and non-alcoholic beverages may be gathered from the fact that in this class of competition alone no less than 141 *bonâ-fide* manufacturers entered their names, as against 127 in 1893. We may look with some amount of hope for the satisfactory solution of a problem which has long been unsolved, and for the solution of which temperance advocates and others will be grateful. The attempts in this direction, we find, are chiefly made with the view of producing a beverage of the character of ordinary beer. A markedly successful production of this kind is the Anti-Burton Ale of Messrs. Cox and Co., of 178, York-road, King's-cross. It is really an excellent and palatable substitute for alcoholic malt liquor, while as to appearance it exhibits no difference. Another satisfactory beverage is the light fermented, non-intoxicating beer prepared by the Kentora Brewery Co., Dering-street, Nottingham; and yet other preparations affording excellent malt liquor substitutes are the hop bitters and hop stout of Mr. G. Heckton, Phœnix Works, Nottingham. Further types we noticed in the Bassana ale prepared by Messrs. Duckworth and Co., Corporation-street, Manchester, and the hop bitters of Messrs. Wheatley and Bates, Sheffield—this latter a really most excellent imitation, possessing all the characteristics of genuine beer, but containing no alcohol. To compensate in some measure for the absence of alcoholic stimulants, Messrs. Clayter and Jowett, of 102, Fenchurch-street, prepare a very agreeable aerated beverage containing the extract of kola nut. Of small novel appliances more or less connected with the manufacture of beverages there was, as usual, a goodly representation. Such are, for instance, improvements in the construction of syphons, chiefly to avoid metallic contamination, we were pleased to observe, as evidenced in the exhibit of Guerat Frères, Paris. Most of the large makers of mineral water machines exhibited several types of corking machines, some of which are self-feeding. A distinct novelty in corking was shown by the Vacuum Corking Machine Co. of Crayfield-square, Edinburgh. This company cork *in vacuo*, which is regarded as an introduction of some importance, since the tendency of wine to turn sour when the air is withdrawn would be of course greatly diminished, while the method will have an important field in the bottling of foods, fruit, &c., in preserving the contents from oxidation or the growth of mould.

It is hardly necessary to add that the spirit and wine industries were very strongly represented.

ST. JOHN AMBULANCE ASSOCIATION.—Lord Sandhurst, Under Secretary of State for War, who is Director and Chairman of the St. John Ambulance Association, presented certificates and medallions on Friday evening to the classes at Charlton, and delivered an interesting address, pointing out the advantages of a knowledge of "first aid to the injured" in both military and civil life.—Drs. Closs, Jeffcoat, and Stenhouse, of Dunedin, New Zealand, have been elected by the London Central Executive, at St. John's Gate, honorary members of the St. John Ambulance Association in appreciation of professional services rendered to the Dunedin centre.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Kensington Urban Sanitary District.—The report for 1893, which Dr. Orme Dudfield has presented to the Vestry of St. Mary Abbott's, Kensington, contains much valuable information, not only in respect to the parish more particularly referred to, but also concerning London as a whole; in fact, all who take an interest in the sanitary administration of the metropolis will do well to read this report. Unfortunately the volume is too bulky, and the subjects touched upon too extensive to allow of our dealing with them in full in the present notice. Dr. Dudfield gives a very succinct account of the outbreak of small-pox which occurred in North Kensington in 1893, and which well illustrates the means by which the disease is often spread by unrecognised cases. In the outbreak in question the disease had been smouldering in the district for a month before the first notification was received. In connexion with the work of the Metropolitan Asylums Board, Dr. Dudfield, according to his usual custom, gives an abstract of the reports issued by the chairman, the Statistical Committee, and the Ambulance Committee of that Board, and we can commend the abstract as an excellent digest to our readers. In this portion of his report Dr. Dudfield refers to the danger of the spread of small-pox which is created by persons congregating around the door of an infected house when the ambulance drives up to remove the patient; and during the outbreak in North Kensington Dr. Dudfield was so impressed with the reality of this danger that he requested the Asylums Board to obtain the aid of the police in preventing this undesirable and unnecessary exposure. The subject of duplicate notification is one to which Dr. Dudfield devotes some three pages of his report, and he gives the figures relating to the notifications received by the Metropolitan Asylums Board, showing that during 1893 there were 2114 duplicate notifications, or 3 per cent. of the total notifications. In Kensington there were 32 such dual notifications. In dealing with the compulsory removal to hospital of cases of dangerous infectious disease, Dr. Dudfield refers to the fact that at the present time the term "without proper lodging or accommodation" has been held to refer to the patient himself only, and not to the safety of persons exposed to infection in the same house, and he draws attention to Section 3 of Sir Henry Roscoe's Bill to amend the Public Health (London) Act, 1891, where it was proposed to remedy this defect, and to make the words apply to a person not housed in such a manner as to prevent the spread of the disease. It appears that in a case of death from diphtheria the authorities of a certain church refused to allow the body to be taken inside the edifice for the purpose of the funeral service. Dr. Dudfield, who was consulted as to the propriety of the proceding, entirely supported the authorities, and he further sent a circular letter to the clergy in the parish with reference to the desirability of exercising caution as to admitting bodies dead of infectious disease into their churches. The circular, we hear, has been very favourably received by the clergy. Dr. Dudfield has gone very thoroughly into the subject of the regulation of bakehouses, and altogether his remarks form a most interesting *résumé* of the legislation affecting bakehouses. Dr. Dudfield, in commenting upon the transfer of control of common lodging houses to the County Council, reiterates his protest against the duty being relegated to the central metropolitan authority rather than to the local sanitary authorities. He considers that the Council should make by-laws, but that the local authorities should enforce them. The increased recognition of the need of the public mortuary of Kensington is well shown from the fact that in 1884 only 24 bodies were there deposited, while in 1892 there were 252. The duty of providing a shelter for the persons from infected houses which is imposed upon the metropolitan sanitary authorities by Section 61 of the Public Health (London) Act, 1891, has, it appears, been so far disregarded by Kensington. The report of the Royal Commission on Metropolitan Water-supply confirms, Dr. Dudfield states, "the accuracy of the views which from time to time during the last twenty years I have submitted to your vestry,

to the effect that for all practical purposes the water-supply of the metropolis is excellent and satisfactory."

Huddersfield Urban Sanitary District.—The general death-rate of this borough for 1892 was but 17·43 per 1000, the lowest on record, and Dr. James Kaye shows by means of a table in his report that since 1863 there has been a gradual and marked decline in the death-rates. Comparing both the general and infantile mortality of Huddersfield with those of the thirty three large towns, we find that, as regards the general death-rate, Huddersfield is the second smallest, while in the matter of infantile mortality—141 per 1000 births—Huddersfield shares the position of honour with Bristol. Her zymotic mortality—1·2 per 1000—is the smallest of any of the thirty-three large towns. Dr. Kaye, in reference to the pollution of the rivers Colne and Holme, states that a very large amount of the pollution comes from places outside the borough, and he looks forward to the Rivers Conservancy Board to improve matters. A committee was appointed during the year to inquire into the smoke nuisance, and they came to the conclusion that most of it was preventable. Dr. Kaye has taken some photographs of small-pox in the vaccinated and unvaccinated, and he reproduces copies of them in his report. We trust they will be carefully studied by those who have under their care children who are yet unvaccinated. In the matter of scarlet fever there was a case mortality of 3·3 per cent. amongst hospital-treated cases, as against one of 11·7 per cent. amongst those treated at home. The resources of the Fever Hospital were, Dr. Kaye reports, taxed to the utmost during 1893—partly owing to its increased popularity, and partly owing to the prevalence of scarlet fever; but considerable relief was effected when the new small-pox hospital at Mill Hill was opened.

Battersea Urban Sanitary District.—A considerable portion of Dr. W. H. Kempster's report deals with the subject of the metropolitan water-supply, and a *résumé* is given of the Report of the Royal Commission and the memorandum of the County Council on the same subject. The sanitary department of Battersea has, Dr. Kempster reports, been reorganised and the staff increased. There are now to a population of 160,175 six sanitary inspectors and a chief sanitary inspector. Dr. Kempster states that efforts will be made in the future to inspect annually every house in the district. Attention has been given during the year under review to the sanitary condition of the Board Schools, and several were found to be defective, as also were other elementary schools. All the urinals belonging to the public-houses in the district were also inspected, and many were found to be seriously at fault.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5932 births and 3714 deaths were registered during the week ending Oct. 27th. The annual rate of mortality in these towns, which had increased in the preceding three weeks from 16·0 to 17·0 per 1000, further rose last week to 18·5. In London the rate was 17·8 per 1000, while it averaged 19·1 in the thirty-two provincial towns. The lowest rates in these towns were 10·2 in Croydon, 12·4 in Leicester, 13·7 in Cardiff, 14·3 in Norwich, and 15·1 in Bradford; the highest rates were 22·2 in Burnley, 22·9 in Bolton, 23·4 in Manchester, 24·2 in Liverpool, and 26·8 in Sunderland. The 3714 deaths included 393 which were referred to the principal zymotic diseases, against 407 and 387 in the preceding two weeks; of these, 94 resulted from diarrhœa, 90 from measles, 79 from diphtheria, 46 from "fever" (principally enteric), 41 from scarlet fever, 37 from whooping-cough, and 1 from small-pox. No fatal case of any of these diseases occurred last week in Leicester; in the other towns they caused the lowest death-rates in Nottingham, Bristol, and Norwich, and the highest rates in Liverpool, Salford, Burnley, Newcastle-upon-Tyne, West Ham, and Sunderland. The greatest mortality from measles occurred in Derby, Portsmouth, Sunderland, Hull, and Gateshead; from scarlet fever in Salford; from whooping-cough in Swansea; from "fever" in Sunderland; and from diarrhœa in Plymouth, Bolton, Newcastle-upon-Tyne, and Blackburn. The 79 deaths from diphtheria included 49 in London, 12 in West Ham, and 2 each in Cardiff, Birkenhead, Liverpool, and Manchester. Three fatal cases of small-pox were registered in Liverpool, 2 in Birmingham, and 1 in Manchester, but not one in London or in any other of the thirty-three towns. There were 50 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 27th ult., against 84, 63, and 60 at the end of the preceding three weeks; 8 new cases were admitted during the week, against 11, 8, and 11 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2293, against 2145, 2171, and 2214 on the preceding three Saturdays; 262 new cases were admitted during the week, against 262 and 261 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had steadily risen from 123 to 287 in the preceding eight weeks, further increased to 329 last week, but were 37 below the corrected average. The causes of 65, or 1·8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Leicester, Newcastle-upon-Tyne, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Nottingham, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·6 and 17·5 per 1000 in the preceding two weeks, rose again to 18·5 during the week ending Oct. 27th, and corresponded with the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·0 in Leith and 17·7 in Dundee to 21·4 in Paisley and 23·3 in Greenock. The 527 deaths in these towns included 15 which were referred to diarrhœa, 12 to scarlet fever, 8 to whooping-cough, 7 to measles, 7 to "fever," 6 to diphtheria, and not one to small-pox. In all, 55 deaths resulted from these principal zymotic diseases, against 59 and 44 in the preceding two weeks. These 55 deaths were equal to an annual rate of 1·9 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The 15 fatal cases of diarrhœa showed a slight further decline from the numbers recorded in recent weeks, and included 6 in Glasgow and 3 in Aberdeen. The deaths referred to scarlet fever, which had been 10 and 6 in the preceding two weeks, rose again to 12 last week, of which 8 occurred in Glasgow and 2 in Edinburgh. The 8 fatal cases of whooping-cough exceeded the number in any recent week, and included 4 in Glasgow and 2 in Edinburgh. The deaths referred to different forms of "fever," which had been 8 and 2 in the preceding two weeks, rose again to 7 last week, of which 5 occurred in Glasgow, where the 7 fatal cases of measles were also recorded. The deaths from diphtheria, which had been 10 in each of the preceding two weeks, declined to 6 last week of which 2 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had risen from 63 to 96 in the preceding three weeks, further increased to 114 last week, and were within 2 of the number in the corresponding period of last year. The causes of 39, or more than 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the preceding three weeks from 23·6 to 18·0 per 1000, rose again to 22·4 during the week ending Oct. 27th. During the past four weeks of the current quarter the death-rate in the city has averaged 21·4 per 1000, against 16·2 in London and 18·1 in Edinburgh. The 150 deaths registered in Dublin during the week under notice showed an increase of 29 upon the number in the previous week, and included 16 which were referred to the principal zymotic diseases, against 15 and 16 in the preceding two weeks; of these 16 deaths, 7 resulted from diarrhœa, 4 from small pox, 3 from "fever," 1 from diphtheria, 1 from whooping-cough, and not one either from measles or scarlet fever. These 16 deaths were equal to an annual rate of 2·4 per 1000, the zymotic death-rate during the same period being 1·7 in London and 1·2 in Edinburgh. The deaths referred to diarrhœa, which had been 3 and 9 in the preceding two weeks, declined again to 7 last week. The fatal cases of small-pox, which had been 4, 2, and 2 in the preceding three weeks, rose again to 4 last week. The deaths referred

to different forms of "fever," which had been 7 and 4 in the preceding two weeks, further declined to 3 last week. The 150 deaths registered in Dublin last week included 26 of infants under one year of age, and 30 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed an increase upon the numbers returned in the preceding week. Three inquest cases and 4 deaths from violence were registered; and 59, or more than a third, of the deaths occurred in public institutions. The causes of 10, or nearly 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF QUEENSLAND.

The Registrar-General of Queensland has recently issued his thirty-fourth annual report, dealing with the vital statistics of that colony during the year 1893. The population of Queensland last year was estimated at 426,798 persons, of whom 240,879 were males and 185,919 females; or of each 100 living 56 were males and 44 females. The marriage-rate in 1893 was only 11·8 per 1000 of the population, the lowest rate recorded since the establishment of civil registration in Queensland in 1857. Since 1888, when the rate was as high as 17·4 per 1000, it has steadily declined year by year; and, with the exception of Tasmania, the marriage-rate was lower in Queensland last year than in any other of the Australasian colonies. In England and Wales the marriage-rate in 1893 was equal to 14·7 per 1000. The birth-rate was equal to 33·7 per 1000, and was the lowest on record; in the preceding three years, 1890–91–92, the rates were 37·2, 36·4, and 35·8 per 1000 respectively. With regard to the deaths registered during the year under review, it appears that the meteorological conditions were not altogether favourable to the public health. The death-rate was equal to 13·3 per 1000 of the estimated population, which, although it exceeded that recorded in either of the preceding two years, was below the rate in any year prior to 1891. During the ten years 1883–92 the rate of mortality in Queensland averaged 16·1 per 1000. Among other Australasian colonies the death-rate during 1893 was equal to 13·2 in New South Wales, 14·1 in Victoria, 13·4 in South Australia, 15·1 in Western Australia, 10·2 in Tasmania, and 10·2 in New Zealand. Infant mortality in Queensland during 1893, measured by the proportion of deaths under one year of age to registered births, was equal to 120 per 1000. Although this rate exceeded that recorded in any of the preceding three years, it was below the mean of the past ten years. Of the 1691 infants who died before completing their first year of life, upwards of one-third did not reach the end of the first month. With regard to the causes of death, it appears that there was an increase in the mortality from nearly all the principal groups of diseases during 1893 as compared with the preceding year. The greatest increase was in the zymotic class, owing to the greater fatality of measles and of whooping-cough. Among the other zymotic diseases, diphtheria and typhoid fever were less fatally prevalent than in 1892.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SUPERNUMERARY SURGEON-MAJOR ERNEST H. FENN, C.I.E., Scots Guards, from Coldstream Guards, to be Surgeon-Major. Surgeon-Captain J. S. Forrester, Royal Horse Guards, is promoted to the rank of Surgeon-Major in the 1st Life Guards, vice Surgeon-Lieutenant-Colonel F. H. Hensman, 1st Life Guards, who is placed on retired pay. Surgeon-Major Tuthill, on arrival from a tour of service at Gibraltar, has been posted to Dublin. Surgeon-Captain McCulloch has arrived in England from the Mauritius on completion of a tour of service there. Surgeon-Major Fayle is transferred from Alderney to Canterbury, and Surgeon-Captain Holyoake has been posted to Colchester.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced:—28th Bombay Infantry: Surgeon-Captain Shaw, I.M.S., to the Medical Charge of the Regiment. Surgeon-Captain Geddes, A.M.S., on arrival from England on fresh tour, has been posted to general duty, Sind district. Surgeon-Lieutenant Lewis, A.M.S., on arrival from England, has been posted to general duty, Mhow district. Surgeon-Captain Trask, A.M.S., is transferred from general duty, Poona district, to general duty, Bombay district. Surgeon-Captain Girvin, A.M.S., to proceed in Medical Charge, 1st Worcestershire Regiment, to Rangoon, and return from that port in Medical Charge, 2nd West Yorkshire Regiment, to Bombay, and on completion of duty is transferred from general duty, Nagpore district, to general duty, Poona district. Brigade-Surgeon-Lieutenant-Colonel H. T. Brown, A.M.S., officiates as Principal Medical Officer, Peshawar district. Surgeon-Major Perry, Officiating Professor of Ophthalmic Surgery, Medical College, Calcutta, is granted furlough for six months. The services of Surgeon-Colonel W. P. Warburton, M.D., I.M.S. (Bengal), are replaced at the disposal of the Military Department. The following promotions are made:—To be Surgeon-Lieutenant-Colonels: Surgeon-Majors W. O'Hara, Stoker, Bomford, and MacCartie. To be Surgeon-Majors: Surgeon-Captains R. E. S. Davis, W. H. Neilson, Leahy, and Weir.

NAVAL MEDICAL SERVICES.

Staff-Surgeons: E. E. Bray and William G. K. Barnes, to the *Gibraltar*. Surgeons: Hubert Holyoake, to the *Gibraltar*; Arthur E. Kelsey, to the *Archer*; Samuel J. Oddie, to the *Peacock*; G. T. Bishop, to the *Linnet*; William Spry, to the *Alacrity*; R. J. Fyffe, to the *Rattler*; Percy Lord, to the *Victor Emanuel*; P. M. May, to the *Eske*; H. N. Stephens, to the *Hearty*; D'Arcy Harvey and F. Fedard, to the *Gibraltar*; Beauchamp F. Parish, to the *Redbreast*; F. W. Collingwood, to the *Vivid*; Henry S. Archdall, to the *Rambler*; and Percy H. Boyden, M.B., to the *Rupert*.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant John Crossley Wright, M.B., 2nd West Riding of Yorkshire Volunteer Artillery (Western Division Royal Artillery), to be Surgeon-Lieutenant.

MILITIA MEDICAL STAFF.

Surgeon-Lieutenant-Colonel R. Thomason, 4th Battalion, Shropshire Light Infantry, retires, with permission to retain his rank and to wear the prescribed uniform on his retirement.

VOLUNTEER CORPS.

Rifle: 16th Middlesex (London Irish): Percival Macleod Yearsley, Gent., to be Surgeon-Lieutenant. 1st Tower Hamlets (the Tower Hamlets Rifle Volunteer Brigade): Surgeon-Lieutenant Charles Edward Milnes Hey is appointed Second Lieutenant.

THE CHOLERA OUTBREAK IN THE EAST LANCASHIRE REGIMENT AT LUCKNOW.

The details of the late outbreak in this corps, so far as they are known through a regimental record of them, go to show how very severe and sudden was its nature and how admirably all behaved under most trying and depressing circumstances. The first case of cholera in the regiment occurred on July 25th, and two victims of it were buried the following day. On the 27th the numbers attacked increased, and on the 28th as many of the company as had received tents went out into a cholera camp in the vicinity. There was an exceptionally heavy rainfall and the camping ground was a lake; the number of attacks still increased, and the regiment was consequently moved to another and higher camping ground seven miles distant from the cantonment; but for a time this was not followed by any abatement of the disease. On Aug. 3rd as many as 50 men were admitted to hospital, and for several days the deaths were 15 per diem. The date of the last seizure is not stated. There were 145 cases of cholera admitted into the station and camp hospitals, and 93 died. The headquarters staff returned to barracks on Aug. 12th, and were followed later by the remainder of the corps. The assiduous devotion of the medical officers and of all concerned—and there was no lack of volunteers to act as hospital orderlies when nearly all the native servants had deserted—was universally and most deservedly recognised from the Commander-in-Chief downwards.

THE NEW INDIAN ARMY SCHEME.

The reorganisation scheme of the Indian Army, which will come into operation on April 1st next, has been practically settled, and the General Order notifying its details will be promulgated in due course when all the arrangements have been finally made. The scheme will, of course, involve numerous and important changes affecting all branches of the military service, including the medical department.

Correspondence.

"Audi alteram partem."

"SCIENCE TEACHING IN ST. MARY'S HOSPITAL MEDICAL SCHOOL."

To the Editors of THE LANCET.

SIRS,—With reference to your annotation on the above-mentioned subject in the issue of THE LANCET of Oct. 27th last, will you kindly give me space in your columns to point out the following facts, and to make a statement thereon?

In the issue of *Nature* of Sept. 20th last a table appeared prepared from lists given in the Students' Number of THE LANCET, showing the extent to which science instruction in subjects not purely medical was provided in the medical schools. From that table it appeared that provision was not made in St. Mary's Hospital Medical School for the teaching of zoology, botany, physics, practical physics, bacteriology, and public health. Feeling that such an erroneous statement was liable to be prejudicial to the interests of the medical school, Mr. Field, the dean of this school, requested me, as sub-dean, to write a letter to *Nature* pointing out the inaccuracies in the list from which their table had been prepared. Before writing the letter I was personally informed, both by the dean and by the secretary of the medical school, that the list appearing in the Students' Number of THE LANCET had not been sent to either of them for revision or correction, and as I had not received it myself I felt justified in stating that it was "not issued with any authority from the school, and not submitted for revision or correction to any official of the school." I therefore trust that you will exonerate me from the charge of having acted "in bad taste" in not ascertaining from the official head of my school the source of responsibility for the errors in the list. If I have made myself clear, you will see that I actually did all those things which you point out that I ought to have done.

I have, with your permission, one further statement to make. In your annotation you state with regard to the list, referred to above that it "was submitted to the dean of St. Mary's Hospital, and as we write we have before us the proof returned to us from St. Mary's Hospital, with three manuscript corrections upon it." By your courtesy I have been enabled to see that proof, and I am perfectly convinced that it is the proof returned as corrected from St. Mary's Hospital. There has, therefore, obviously been a mistake or error of memory, and equally obviously the mistake has not been on the part of THE LANCET authorities. Owing to this mistake I have unwittingly been led into making an absolutely incorrect statement concerning the mode of conducting THE LANCET. As the dean is sending to THE LANCET an explanation of this regrettable incident, it only remains for me to offer you my most ample apology for the incorrectness of the statement that the list in the Students' Number of THE LANCET was "not issued with any authority from the school, and not submitted for any revision or correction to any official of the school," and my sincere regret for having unwittingly cast a reflection upon THE LANCET which was absolutely undeserved.

I am, Sirs, yours truly,
ARTHUR P. LUFF,
Oct. 30th, 1894. Sub-dean of St. Mary's Hospital Medical School.

To the Editors of THE LANCET.

SIRS,—I have read the article in your last issue about the science teaching at St. Mary's Hospital Medical School. The facts are these. The school secretary requested me to look through a proof which he had corrected, and I am afraid I sent it back as it was without any additions. After the article on science teaching in medical schools appeared in *Nature* Dr. Luff asked me if I had sent any information on our teaching to THE LANCET. I replied, "Certainly not," quite forgetting at the time that I had some months before seen the usual annual paper forwarded by THE LANCET to all the medical schools. The mistake, therefore, was mine, and I am exceedingly sorry for it.

I am, Sirs, your obedient servant,
GEORGE P. FIELD, Dean.
St. Mary's Hospital Medical School, Paddington, Oct. 30th, 1894.

*** We take the opportunity of again expressing our thanks to the deans of the various medical schools all over the United Kingdom for their invaluable assistance in the preparation of our annual guide to the professional career. In view of the larger range, in a specially scientific direction, over which the medical aspirant's studies now extend, it will be expedient to consider in detail the facilities offered by the different schools for the acquisition of preliminary knowledge; and this we hope to do shortly.—ED. L.

CHELSEA HOSPITAL FOR WOMEN.

To the Editors of THE LANCET.

SIRS,—I beg to hand you herewith copies of correspondence that has passed between Mr. Jonathan Hutchinson and myself. Its publication in your journal would, I believe, be of considerable assistance towards understanding the difference that has arisen between that gentleman and the Board of Management.—I am, Sirs, yours faithfully,
W. H. FENTON.
George-street, Hanover-square, W., Oct. 27th, 1894.

[COPY.]

27, George-street, Hanover-square, W., Oct. 19th, 1894.

DEAR MR. HUTCHINSON,—It is being inferred by the press that for some reason or other you object to the re-elections which have taken place at the Chelsea Hospital for Women. Will you kindly tell me on what grounds, if any, you object to my being again placed upon the staff of that institution? Faithfully yours,
(Signed) W. H. FENTON.
J. Hutchinson, Esq., F.R.C.S., 15, Cavendish-square, W.

[COPY.]

15, Cavendish-square, W., Oct. 20th, 1894.

DEAR FENTON,—Your letter affords me an opportunity, of which I gladly avail myself, for saying that I entirely approve your re-election. In common, I do not doubt, with all who know what was going on at the hospital I regarded this as a foregone conclusion.

If you have seen the letters which I addressed to the secretary you will, I think, have been able to appreciate my reasons for making protest against the mode of nomination by asking that my name should be removed from the list of consultants. It was because the nomination—regarded, I believe, as equivalent to election—was made precipitately and without any proper consultation with the consultants or any other professional body. What has since occurred confirms me in that impression. As you are aware, I did not attend the meeting summoned for selection of names partly because I was never officially asked to do so, and partly because, as I had then already protested, the thing was being hurried through at a pace at which I could not go. After my resignation both my colleagues, although they had attended the meeting and taken part in the selection, also requested that their names should be removed, thus clearly showing that they were not satisfied with what had been done or left undone. The chairman at the meeting last week said that he knew of no reason for the resignations of the consultants other than that probably their friends had not been elected. Thus he made it clear that he believed that the committee in making its nominations had not regarded the recommendations of its consultants, and that the new staff were in truth put forward by a group of laymen without any responsible professional guidance. Now there were, I believe, nearly thirty candidates, and, apart from the mere question of proper selection, there was the obvious duty of guarding against injustice to those who had been on the staff before. It was quite impossible that a lay committee without professional guidance, and meeting hurriedly as it did, could make a judicious selection, and against such a procedure I feel bound to bear my protest. I am not seeking to serve the interests of any "friend." It is to me simply a matter of professional propriety and justice. Believe me, yours truly,
(Signed) J. HUTCHINSON.

You are at liberty to make any use you like of this letter, provided it is used as a whole.

[COPY.]

27, George-street, Hanover-square, Oct. 21st, 1894.

DEAR MR. HUTCHINSON,—Not merely as a personal matter, but for the sake of the hospital, I was very glad to receive your letter of yesterday. The hospital authorities have been misunderstood in their actions in every conceivable way, and in the matter of reorganising the staff, amongst others. I am not, and never have been, a member of the Board of Management, and therefore cannot speak for them, but I believe a little inquiry will show that the Board did not act with undue haste, but that it was a necessity for them to be prompt. Five meetings had been held after they received the mandate of the governors to form a new staff, and before they asked the consultants to sit on a subcommittee to aid them in a selection of the most suitable candidates. At these meetings they appear to have decided the lines on which to elect—viz., to take no one back whose work had not stood the test of the Commission and to elect no one who would not positively state he was not in general practice; this last to reduce the risks from imported infection. I gather that two of the three consultants accepted the invitation to sit on that subcommittee. It was thought that your invitation was an official one. However, I am sure it was a matter of regret to all that you were not present at the selection of the candidates. As far as my information goes neither of the consultants present demurred at the shortness of time allowed for the selection. If they had done so, or had you written on the subject, every attention would have been paid to a request for more time. It is quite conceivable to me that the Board felt it was not right, in the face of the report of the Commission and the criticisms of the press, to work the hospital one day longer with the old staff than was absolutely necessary. I am informed that the subcommittee of selection included in their list of twelve names every one of the six subsequently elected. Further, only one of the old staff who was not re-elected appeared amongst the

twelve selected. The fact that so many of the Board were leaving town about the beginning of August must have had an influence in deciding prompt action. Faithfully yours,

(Signed) W. H. FENTON.

THE ADMINISTRATION OF ARSENIC.

To the Editors of THE LANCET.

SIRS,—In the report of a discussion at the Liverpool Medical Institution in THE LANCET of last week in reference to the detection of arsenic in urine it is affirmed by several of the speakers that it is impossible to detect it when only medicinal doses are given. Some few years ago, shortly after a remarkable assize trial at Liverpool, I happened to have a patient who was taking thirty minims of Fowler's solution daily for several weeks. I was anxious to ascertain if, with such doses, I could detect the presence of arsenic in the urine. I failed at first with Reinsch's test until I evaporated the urine down to about one-fourth of its bulk, after which with a few minutes' boiling I got on several occasions the characteristic metallic deposit on the copper slip.

I am, Sirs, yours faithfully,

Bolton, Oct. 29th, 1894. JOHN LIVY.

*** The experience gained in THE LANCET Laboratory of this test is that, with certain precautions, it is very satisfactory, and, with the exception perhaps of the well-known process of Marsh, more reliable than others that have been suggested. In carrying out Reinsch's test it is absolutely necessary, however, to give heed to the following points: (1) the purity of the hydrochloric acid; (2) the fluid to be tested should contain about one-eighth of its volume of the acid; and (3) the copper (best in the form of foil) should have a bright and perfectly clean surface.—ED. L.

"THE PAY SYSTEM AND THE GREAT NORTHERN CENTRAL HOSPITAL."

To the Editors of THE LANCET.

SIRS,—With reference to Mr. George Brown's letter in your issue of Oct. 27th, permit me to say that, in the opinion of the committee which promoted the protest the suggestion of Mr. Brown that the local practitioners should attend their own cases in the pay wards is unworkable and, even if workable, undesirable. Our contention is that the pay wards and charitable wards should not be associated in the same institution. There are nursing homes already in the north of London into which we can get any cases that require "hospital treatment." We have had the reply of the general committee of the hospital; we are now awaiting the reply from the staff. Having got that, we shall be in a position to call a general meeting of the 204 protesters.

I am, Sirs, yours faithfully,

GEORGE WIGHT,

Liverpool-road, N., Oct. 30th, 1894. Chairman of Committee.

"THE POSITION OF THE THEORY OF EVOLUTION."

To the Editors of THE LANCET.

SIRS,—Dr. Walter Kidd invites the medical profession to speak out its mind on the theory of evolution. I can have little doubt that such members of it as have paid the greatest attention to the subject will, by a large majority, endorse the opinion of the professed biologist. To carefully weigh all the points for and against the theory of evolution would not only occupy more space than you can afford, but would lead to a needless repetition of arguments which have been used over and over again. I shall, therefore, content myself with briefly referring to a few issues which have been raised by your correspondent. First, then, I can see no ground for his fears lest the acceptance of this theory may lead us to condone crime. Long before the theory of evolution had been seriously contemplated the freedom of the will had been questioned, and I believe I am right in saying that the majority of thinkers at the present day disbelieve in this supposed freedom. Now such disbelief is far more calculated to condone crime than belief in evolution. Its effect, however, is far otherwise. It leads one, while acknowledging the necessity for penal laws, to be charitable to the criminal; it ever reminds us to judge not too hastily; it places us in sympathy with that great man who, when he saw a criminal hurried away to his doom, exclaimed: "There goes, but for the grace of God, myself." Dr. Kidd appears to be equally fearful that "this theory may be incorporated into the primers of our national schools and taught as a dogma to the rising generation," and he hints at "a gradual unsettling of the sanctions of morality." But surely, Sirs, there is no ground for fear here. I see nothing but what is beautiful in Herbert Spencer's ethical code, nor do I believe that religion has suffered at the hands of the evolutionist. Again, your correspondent contends that, if we admit the theory of evolution, we are open to the grave charge of interfering with the "survival of the fittest" by rescuing the "unfit" from death. And here, Sirs, we come to what is to us medical men the most important aspect of the subject. By all means let us never weary of relieving suffering and of saving life; but shall we not beware how we let those we rescue live in posterity? This, I believe, is the great moral question of the future. The terrible responsibility of *taking* life has been acknowledged from of old; but the responsibility of giving birth to life—has this been equally recognised? Your correspondent rejoices, and all of us rejoice with him, over the survival, through medical skill, of a woman who had been delivered from hysteria, cured of tubercle and glycosuria, and afterwards successfully operated upon for cancer; but, Sirs, I put this question with all reverence, Can we equally rejoice that this woman, so happily rescued, is the mother of several children? Have we yet realised the tremendous influence of heredity in the causation of disease? I hold that all diseases other than the purely accidental are hereditary; and if such is the case, how great is our responsibility to posterity.

I am, Sirs, yours faithfully,

Devonshire-street, W., Oct. 30th, 1894. HARRY CAMPBELL.

THE ETIOLOGY OF TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—All Dr. Klein's opinions, when based upon bacteriological grounds, are entitled to great respect, but while fully appreciating this, I am unable to accept his views on the invariable spread of enteric fever by specific contagium. When Dr. Klein states that the contention of the so-called *de novo* origin of enteric fever is "the outcome solely of bacteriological study, not of epidemiological observation and experience on the part of those advancing it," may be he speaks for the majority of health officers and medical men; but there still remain some of us—and more than he suspects—who, having had special opportunities of studying the origin of the disease in the practice of preventive medicine, will still contend that the theory of its *invariable* origin from a previous case is absolutely unsupported by evidence, and appears to many of us to be untenable. No one will dispute the fact that the bulk of enteric infection arises from previous cases, that such may be entirely concerned in epidemic spread, and it is probably this unquestionable fact that has led to so general an acceptance of the doctrine of the *invariable* specificity of the disease; it cannot be a view based upon actual experience in most cases, for there must surely be few medical men who are able to say that in their experience they have not encountered cases in which it has been impossible to trace the infection to any previous case. Let Dr. Klein turn to the reports of medical officers of health of rural districts, where it is less difficult to eliminate the various factors that may be concerned in the spread of the disease, and he will be struck with the frequent admissions that it was found quite impossible to trace the origin of isolated cases. I have notes of fifty *sporadic* cases of enteric fever, the origin of which I have spared no time or trouble in investigating, and in twenty-two of them there is not the faintest evidence of any likelihood of infection from a pre-existing case, all due regard being had to the manifold ways in which the infection is capable of disseminating itself. So far from Dr. Klein's statement being borne out in my own particular case, it was from epidemiological considerations, and *not bacteriological* (though I find support in this respect from many eminent authorities), that I have been led to adopt the view that whereas most enteric infection arises from a pre-existing case, there are isolated instances where it does not do so, and the most acceptable theory to many of us is that under exceptional conditions—of which we at present

know little or nothing—the Bacillus coli communis may become, by evolution, the specific Eberth-Gaffky bacillus—a contention which I endeavoured to support both clinically and epidemiologically in a paper read at the last annual meeting of the British Medical Association.

I am, Sirs, yours, &c.,

HENRY KENWOOD, M.B., D.P.H.,
Medical Officer of Health, Stoke Newington, and also for the Finchley District.

Oct. 30th, 1894.

THE LOSS OF LIFE FROM PREVENTABLE DISEASE.

To the Editors of THE LANCET.

SIRS,—I have read with much interest Dr. Joseph Priestley's able article, "The Classification of Infectious Diseases," in THE LANCET of Oct. 27th. I am in entire agreement with him when he says that the high mortality from whooping-cough is a distinct blot on preventive medicine, and that for the next twenty years there should be a very great improvement upon this; that without notification health authorities can do nothing. I think that if isolation and disinfection in this disease were more strictly enforced a reduction in the mortality would be the result; the former an important factor in the management of epidemic diseases with air-borne contagion, and the latter so often, I fear, neglected in whooping-cough, in which the infection is given off in the secretions from the lungs and clings closely to articles of clothing.—I am, Sirs, yours truly,

EDWARD SAMUEL LEE, M.D.

St. Leonards-on-Sea, Oct. 29th, 1894.

"REMUNERATION OF MEDICAL WITNESSES."

To the Editors of THE LANCET.

SIRS,—I have read with much gratification your remarks on the above subject in THE LANCET of Oct. 13th, and am glad you so thoroughly agree with the efforts which the Police Surgeons' Association are at present exercising to obtain a more adequate and just reward for evidence which has always been given by the medical profession with such impartiality. We have indeed been a long-suffering body, and beyond an occasional protest no organised attempt has been made to remedy this particular grievance. I feel sure that such an amount of evidence and the existence of so many anomalies will be produced by the deputation of police surgeons, especially if supported by the general body of private practitioners, that it will be manifest to the Home Secretary that the present state of affairs is open to correction. As a police surgeon I am called to give evidence for the prosecution at nearly every assize at Liverpool, four times each year, and to travel twenty miles to the court. I must on each occasion engage some one to attend to my practice in my absence. As a rule I depart before nine o'clock each morning, and cannot return until late in the afternoon or evening. The inconvenience of having a busy practice is not considered, and every day that the case or cases appear in the list I must be present, whether I am called to give evidence or not. As these assizes usually last for a fortnight to three weeks, and I never know until late one evening if I shall be required the following day or not, it is obvious that one guinea a day is altogether an insufficient payment. It does not cover expenses while away and cost of engaging a locum tenens. Then we must take into consideration the serious pecuniary loss which every medical man in private practice sustains who is compulsorily taken away from that practice. He is compelled to put aside all other engagements and answer to his subpœna. The present inadequate remuneration may probably cover the expenses of a young house surgeon or dispensary surgeon with a fixed salary and who resides in the assize town; but I contend that two or three guineas a day, according to the distance the medical witness has to travel to assize or quarter sessions courts, with first-class railway fare, and one to two guineas a day for evidence at police-courts, is little enough for private practitioners to expect, and then I fear we should often be losers by absence from our practices. There is another view of the situation which I think should not be overlooked. Medical men as a rule dread, and often go out of their way to avoid, cases which may necessitate their presence to give evidence for the prosecution at assize, quarter, or petty sessions, and I believe this is due to the serious inconvenience and pecuniary loss their absence will entail, coupled with inadequate remuneration. The better payment offered for medical evidence on behalf of the defence might in some cases lead to a serious miscarriage of justice. I would obviate the possibility of such an evil and secure willing witnesses for the Crown.

You mention that in Treasury prosecutions the higher scale is allowed and that medical witnesses are given three guineas per day. I have on several occasions given evidence for the prosecution in Treasury cases, and, although I have claimed three guineas, I have never yet been able to obtain more than one guinea a day. I think the fee for evidence at inquests should be one to two guineas for private practitioners, according to the distance they are compelled to travel to the coroner's court. The present fee for a thorough post-mortem examination for medico-legal purposes is simply ridiculous. Only last week I was fully occupied for three hours in making a complete post-mortem examination in a case of alleged murder, and I maintain that arduous and unpleasant work of such a character and such duration ought to receive better payment. I do not think that the Police Surgeons' Association are asking for too much or for anything that is unreasonable. Better remuneration would place medical witnesses in a more independent and dignified position, and I trust that our endeavours will be forcibly supported by the profession generally and by the medical press.

I am, Sirs, yours faithfully,

W. MITCHELL BOOCROFT,
Police Surgeon, County Borough of Wigan; Hon. Surgeon, Wigan Infirmary.

Oct. 27th, 1894.

To the Editors of THE LANCET.

SIRS,—We desire, in our official capacity, to thank you for permitting this question to be again taken up and discussed in your columns. As it affects a large number of practitioners, as well as police surgeons, we should be glad to have our hands strengthened as much as possible before any deputation waits upon the Home Secretary, so that we should not be met with the objection that the small remuneration received only occurs in isolated cases. If, therefore, medical practitioners, and especially those who live at a distance from the assize town or where the county sessions are held, would send to THE LANCET the result of their experience as to the inconvenience to which they are put and the remuneration received we should be glad.

A short statement of facts such as that given by Mr. Heslop in THE LANCET of last Saturday, and that by Dr. Maybury in to-day's issue, is what is wanted, and it would still further help our Association if those who write would state whether they could accompany our deputation on receiving reasonable notice of its exact date. We trust the importance of this subject to the profession generally will be sufficient apology for asking your insertion of this letter.

We are, Sirs, yours faithfully,

FRED. W. LOWNDES, Liverpool,
H. CULLIFORD HOPKINS, Bath,
Hon. Secs., United Kingdom Police Surgeons' Association.

Oct. 27th, 1894.

CHOLERA INFECTION.

To the Editors of THE LANCET.

SIRS,—The subject of cholera infection is so important and the evidence given by the lamented death of Dr. Oergel so valuable that I venture to address you on it, though you have already called attention to the occurrence. The facts as related in the *Deutsche Medicinische Wochenschrift* are very simple. Dr. Oergel received some water from the River Vistula. The Vistula is infected with cholera poison and has caused many deaths from cholera this year. Dr. Oergel was living in Hamburg, which was not infected, and he manipulated this water in his laboratory. Some of it, it is believed, entered his mouth, but the evidence on the exact manner of infection is not clear. All that is certain is that after the receipt of this water he contracted Asiatic cholera and died. Those, I think, who are conversant with the disease will admit that the evidence is conclusive as to its being Asiatic cholera. But the water had been examined bacteriologically, and was proved to be entirely free from the comma bacillus. We have, then, cholera occurring in a non-infected place after the introduction of water from an infected place, but quite destitute of comma vibrios. The facts speak for themselves with the exactitude of a mathematical

demonstration. As is very general in cholera, but not universal, a comma vibro was found after the disease was developed in the patient; but it is not stated to which of the thirteen species of comma vibrios that Professor Cunningham of Calcutta has shown to exist it belonged. It would appear, moreover, from the account that Dr. Oergel had previously experimented on himself with comma vibrios without effect. The case is of value also as evidence of the specific nature of Asiatic cholera. Though only one case occurred in a non-infected town it was at once recognised as different from ordinary cases of cholera nostras. It would seem as if Hamburg was destined to be the *corpus vile* from which we are to obtain our experimental knowledge of cholera. It will be remembered that, relying on Dr. Koch's methods of diagnosis in 1892, the authorities declined to recognise the disease as Asiatic cholera for very nearly a week, till the town had become a scandal to Europe, and now we have this additional evidence from it. But Hamburg has no Western rival in its familiarity with cholera, for it has already had sixteen epidemics, and unless it listens to the advice given by the Commissioner of THE LANCET it is likely even yet to add considerably to its experience.

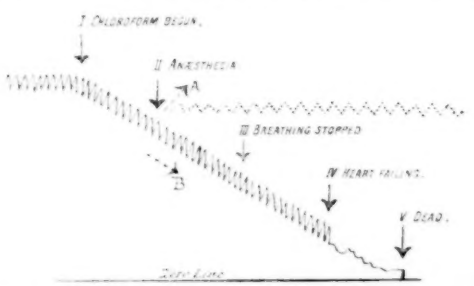
I am, Sirs, faithfully yours,

London, W., Oct. 22nd, 1894. A. J. WALL, M.D.

"THE HYDERABAD CHLOROFORM COMMISSION."

To the Editors of THE LANCET.

SIRS,—I am much obliged to Mr. Arthur H. Ward[1] for his courteous reply to my letter. It is somewhat inconsistent, however, of him to profess that he could not quote correctly a sentence of mine, three lines and a half long, in a paper extending over a column, seeing that he has now done so in a letter which occupies less than twenty lines of THE LANCET. Moreover, he is entirely wrong in asserting that "Surgeon-Lieutenant-Colonel Lawrie challenges me (Mr. Ward) to prove that a distinctly different proposition has not been confirmed by experiment." The only distinctly different proposition is Mr. Arthur H. Ward's compression of my statement into the meaningless proposition that "chloroform is perfectly safe when the respiration alone is watched." The sentence since correctly quoted by Mr. Ward, from THE LANCET report of the meeting of the Royal Medical and Chirurgical Society of July 3rd, in your issue of Sept. 22nd runs as follows: "I think I have shown that, while it is possible to give chloroform with uniform safety by proper attention to the respiration, no man can do so who dreads heart failure and takes the pulse as a guide," and I challenge



Mr. Ward or anybody else to prove that this proposition has not been confirmed by experiment. To save time, as replies are received from me by THE LANCET after so much delay that the subject is in danger of being forgotten, I enclose a diagram of what happens in uncomplicated death from chloroform poisoning. This diagram shows:—

1. The sequence of events in death from chloroform is lowering of the blood pressure with, first, anæsthesia, then stoppage of the respiration, then failure of the heart, and, finally, death. The only modification which may take place in the *modus operandi* of the anæsthetic is that in patients or animals who are very susceptible to the effects of chloroform and in those with weak or diseased hearts the intervals between certain of the events depicted in the diagram may be shortened and in extreme cases almost inappreciable. 2. The futility and danger of taking the pulse as a guide. The pulse is clearly not a guide to anæsthesia beyond which chloroform ought never to be pushed; and, on the other hand, the information derived from the pulse when the heart begins to fail and death is most likely inevitable (at the point marked arrow IV.) constitutes nothing more than a second-hand warning that the respiration had stopped previously (at the point marked by arrow III.). It is obvious from the diagram that, while heart failure may be prevented by proper attention to the respiration, it is impossible to prevent it by feeling the pulse. 3. Provided the inhalation of chloroform is not pushed beyond the point where anæsthesia is complete (arrow II.) and is maintained at the level of the dotted tracing, the region of danger is never entered, and cardiac failure from the action of chloroform is impossible.

The experiment from which my diagram is taken—of simple uncomplicated chloroform poisoning—can be repeated in every laboratory and medical school in Great Britain, with results which will either confirm ours or clash with them. In the latter event Mr. Ward will have grounds for questioning my statement. I challenge him to put it to the proof.

I am, Sirs, yours obediently,

Hyderabad, Deccan, Oct. 10th, 1894. EDWARD LAWRIE

[1] THE LANCET, Sept. 22nd, 1894.

THE TRAVELLING ARRANGEMENTS AT THE BUDAPEST CONGRESS.

To the Editors of THE LANCET.

SIRS,—Now that the 1894 International Congress of Hygiene is over, and a committee has been appointed to deal with matters concerning the 1897 meeting, might I through your columns draw their attention to the necessity of making better travelling arrangements? At the Budapest gathering the reduction accorded to members of the Congress on railway tickets amounted to about 10*s*. For those who travelled by France, although they were given a reduction of 50 per cent., obtaining this reduction was hedged in by so many formalities that many were not able to avail themselves of it. It seems to me that a far better way would be for the committee to negotiate direct with the railway company, for I think that all who went there will admit that the intervention of agents and the arrangements made by them were far from satisfactory.

I am, Sirs, yours faithfully,

Camberwell, Oct. 26th, 1894. CONGRESSIST.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Amalgamation of St. Mary's and the Southern Hospitals.

THE annual meetings of these institutions were held about a fortnight ago, and at each of them the scheme for amalgamation was alluded to. At the St. Mary's Hospital meeting it was stated that the negotiations with the Southern Hospital were progressing, but were not sufficiently advanced to enable the board to report definitely as to the final plans decided on in order to bring the amalgamation into actual operation. The David Lewis Trust proposed at first to give £50,000 for the building of a hospital at the corner of Gloucester-street and Oxford-road and another in Stanley-grove, Oxford-road, on condition that this amalgamation should take place. It was subsequently intimated that the grant would be increased to £70,000 if the land and building of St. Mary's Hospital in Quay-street were handed over to the Trust for appropriation to the public use. The Gloucester-street Hospital will be for midwifery cases and out-patients; that in Stanley-grove will be reserved for the treatment of diseases of women and children. Some awkward compounding of names will take place. St. Mary's Hospital, the older institution—having existed over a century—retains its name; the Gloucester-street building being called St. Mary's Hospitals—Maternity Hospital; and that in Stanley-grove the St. Mary's Hospitals—the David Lewis Southern Hospital. These cumbrous titles are unfortunate, but time will no doubt bring into use some briefer appellations. The committees of the two institutions have agreed on the details of the amalgamation, but are waiting for the sanction of the Charity Commissioners. Lack of subscriptions was bewailed at both meetings, and one of the speakers at the meeting of the Southern Hospital said: "If the great scheme of amalgamation with St. Mary's were accomplished it would entail an immense

charge on the funds of both hospitals, and they would really be much poorer than they were now. The money was simply given for building purposes." Last year the income of St. Mary's Hospital was £3415 and the expenditure £3728; that of the Southern Hospital was £2493 and the expenditure £3322, showing deficiencies of £315 and £829 respectively. They are unable to raise the money now required to carry on their work, and will find it still more difficult to obtain the £10,000 a year, or probably more, that will be wanted in the future. In times of chronic commercial depression subscription lists are apt to shrink. The site for the Maternity Hospital is not well chosen. It is at the corner of two streets, where the traffic is very noisy and heavy and is certain to increase; it is also close to the Oxford-road Station, and the railway adds its own special contributions to the general noise. Moreover, it lies low, where fog is prevalent. A lying-in hospital should surely be protected from continuous distracting noises, and its surroundings ought to be as salubrious as possible.

The Vegetarians.

The annual meetings of the Vegetarian Society were held here last week. In the morning there was a conference, and in the evening a public meeting. At the former the chairman dwelt on the literary testimony, ancient and modern, in favour of cereal and vegetable food, and held that the Bible taught principles which would logically lead to vegetarianism. A paper on the History of a Beefsteak pointed out the suffering caused in the transport of animals by sea. Another was read on the Relation of Vegetarianism to the Intellectual and Moral Life. A third was entitled Forward Movement in Food Reform, showing that vegetarian teaching should be made the basis of temperance reform. At the evening meeting one gentleman advocated the eating of our food uncooked, not of fruit and nuts only, but of grain and pulse and seed. Animals ate these raw—in their natural state—and he believed it would be better for us if we did the same. This presumably is the forward movement, by following which we may hope to acquire the dietetic habits of what we call the lower animals, which, by the way, are not all of them vegetarian. The dominant idea or feeling with many, perhaps with most, of these good people is aversion to the infliction of suffering and the taking of life. The chairman thought there was nothing in the needs of his life that allowed him to sacrifice any other life. How far down the scale of animal life this feeling should be carried, or what should be the rule of conduct in certain contingencies where animals not vegetarian are concerned, was not stated.

Seats in Shops.

A very commendable organisation of ladies, with the voluminous title of "The Manchester and Salford Central Association of Societies for Women and Girls," has posted a circular on the subject of seats in shops to every shopkeeper employing women in Manchester and Salford. The memorial is drawn up with care and temperately worded, and ought to have some good effect. It is strange that so obvious a piece of cruelty as compelling women and girls to stand uninterruptedly for long hours should be perpetrated by those who in other relations of life are, for the most part, kind and considerate. Drapers are generally supposed to bear the palm for the sternest infliction of this mode of torture, but in a leading article on the subject the *Manchester Guardian* says they are not the worst offenders: "There are in this city sweetstuff shops where the women assistants have to stand from 8.30 A.M. to 9 P.M., and on Saturdays even till midnight, with no holidays save one week in the whole year"; and, further, "the extremely injurious effect of long hours of standing on the health of women, and especially of the young girls now employed in such numbers, was pointed out by THE LANCET Commissioner some time ago, and the reports of Miss Orme and Miss Collet to the Labour Commission confirm his statement." The excuse for the practice—that if a shop girl is seen resting it gives a customer the impression of little business being done—is not flattering to the customer's common sense or kindness of heart.

The Salford Royal Hospital.

The sixty-seventh annual meeting of this hospital was held on Oct. 27th, and the same cry was echoed that has been heard from St. Mary's and the Southern Hospitals. The work increases, but the funds decrease. There were 23,051 patients in the year—nearly 2500 more than in the previous year and nearly 6000 more than in 1892. "The board regret to announce that the various sources of income show a considerable falling off compared with the six preceding years," and "the expenditure with increasing numbers of patients is necessarily growing, whilst the income of the hospital is diminishing." The income for the year was £4793, the expenditure £6161, leaving a deficit of £1367. Since the extension of the hospital in 1883 the adverse balance has reached a total of £5727, and to extinguish this debt the board, with great reluctance, asked the sanction of the governors to pay it off by taking it from the invested funds of the charity. There must be something wrong in the management of hospitals when one and all are becoming involved in debt. Extensions are made without sufficient guarantee that the funds for maintenance will be forthcoming; and, moreover, the abuse of these charities by those who are able to pay, by robbing them of their resources, renders them less able to help the needy.

Small-pox and Vaccination at Monsall.

At the monthly meeting of the infirmary board some interesting figures were given which had been prepared by Dr. Berry, the resident medical officer at the Monsall Hospital. Between March, 1892, and October, 1894, 1004 small-pox patients were treated there. In the unvaccinated cases the mortality was 30·84 per cent. In the doubtful cases, where no marks of vaccination were left, it was 13·02; in the distinctly vaccinated it was 4·03. Of 4 patients suffering from the disease, though in a very mild form, after revaccination, not one died. No member of the hospital staff was infected. A large number of patients were received certified to have small-pox, but were found to be suffering from something else, and were taken into the wards and, of course, exposed to "dense infection." When it was found that they were not small-pox patients they were revaccinated, and in no single instance did they take the disease. Dr. Berry believed that a person exposed to the infection of small-pox, but vaccinated within forty-eight hours of the exposure, would not contract the disease.

Oct. 30th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Sunday.

THE amount collected up to the present return for this year is £3734 7*s.* 9*d.* The proceeds on this occasion go to the amalgamated charities, which number fourteen; one year it is the General Hospital, and another year the Queen's Hospital, each of these three taking turn in successive years. The occasion last Sunday afternoon at the town hall was marked by the presence of the Bishop of Worcester in the chair, the address being given by Archdeacon Farrar. The learned divine took the subject of charity as his text, and pointed out that Hospital Sunday in London last year realised about £40,000, which he calculated as being one-sixteenth of a penny per head of the population. After an eloquent and fervid appeal the sum of £60 was contributed by the audience, with which the hall was packed.

Insanitary Dwellings.

The health committee, acting under Section 32 of the Housing of the Working Classes Act, have lately been undertaking some important prosecutions. The cases were supported by the medical officer of health (Dr. Hill) and Dr. Reed (medical officer of health for the Staffordshire County Council), and in some instances the alleged defective houses were visited by the magistrates themselves. In most of the instances the insufficient nature of the tenements as dwelling-places was clearly proved, and closing orders were made. The Bench stated that they reserved to themselves the right to consider in a different way the action they should take in dealing with future cases. In large towns the spread of disease and the tendency to originate ill-health of various kinds must be largely influenced by the sanitary condition of the smaller houses and courts. The action of the authorities can only be regarded as conducing to the interests of the community at large in putting into force the powers at their disposal.

The New General Hospital.

A meeting of the general committee of this institution was held on Oct. 24th. The report mentioned the success of the ceremony of laying the foundation-stone by the Duke of York,

when, by the liberality of Mr. J. C. Holder, a pavilion for the accommodation of 3500 people was erected. Donations of £1250 each for the endowment of beds from Mrs. Cornforth and Mr. Smith Ryland were announced. Mr. Holder also expressed his willingness to endow a bed with the same amount in memory of his sister. A letter was read from Sir John Jaffray, resigning his post as treasurer on account of ill-health. This was received with regret, and was entered upon the minutes. A statement as to the finances showed that the total amount promised up to the present time was £95 544 odd; of this £18 were still to be paid. The sale of old materials &c. realised £1683, which with interest accumulated made an available cash balance of £79,172 2*s.* 3*d.* Mr. J. E. Wilson was appointed treasurer, and sundry votes of thanks were passed.

Birmingham Medical Mission.

The nineteenth annual meeting of this useful charity was held on Oct. 25th. It was stated that 22 688 consultations and visits to 5339 cases were evidence of the successful working of the mission during the past year. The finances were not quite so satisfactory. The receipts showed £645 odd and the expenditure £719. Mr. Crabbe, the medical superintendent, gave some interesting details of the medical and religious aspect of the work. He mentioned incidentally that Polish and Russian Jews had applied for help.

Medical Men and Politics.

In the municipal contests going on in the city at the present time one of the leading surgeons of the Queen's Hospital is a candidate. Already five medical men occupy seats in the council, and the prospect of an addition to their number gives the probability of medical and allied interests being sufficiently attended to in this important administration.

Queen's College, Birmingham.

On Oct. 29th the annual meeting of the governors of Queen's College, Birmingham, was held under the presidency of the Rev. Canon Wilkinson. A communication was read from the secretary of Mason College in reference to a resolution passed by the Council of Queen's College last year, that Mason College should contribute a substantial share towards the cost involved in the transference of the medical and dental departments of Queen's College to Mason College. The communication of the secretary of Mason College was to the effect that a clause in the scheme of transfer provided that the expenses consequent on the change should be borne by Queen's College. After much discussion the communication was referred to the council and a resolution was passed empowering them to reply, urging the claims of the College to have a substantial share of the expenses borne by Mason College.

Oct. 30th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Tyne Port Sanitary Authority.

AT the ordinary meeting of the Tyne port sanitary authority, held in Newcastle, the report of the medical officer showed that, although no fewer than 350 vessels had arrived from cholera-infected ports, there was not a case of cholera to report. The chairman thought the authority might congratulate themselves and the medical officer on the comparative freedom from any severe outbreak of cholera in the district. Whatever other authorities might do, he did not think there was more diligence exercised anywhere than under the River Tyne port sanitary authority. They did not get very much credit for it, but they thought the principle of prevention was better than cure, and that it was wiser to spend money on preventive measures than in stamping out an outbreak. The medical officer said the authority had a good name in other parts of the world for organisation.

Proposed Children's Hospital at Darlington.

A meeting has been held in Darlington, under the presidency of the Mayor, to consider the advisability of adding a children's department to the existing hospital. The Mayor said that the Children's Hospital in Victoria-road was being given up, and it was desirable that some provision should be made. It was also stated that Miss Pease, who had carried on the Children's Hospital, was obliged through advancing years to give it up, but had offered £400 towards adding a wing for children to the general hospital. The committee had had plans prepared for a children's ward, which would probably, with furnishing, cost £2500. The cost of maintaining the children's wing with nine beds would, it was estimated, be £360 per year; but six more beds would be added for adult patients. Mr. H. F. Pease, M.P., Sir T. Fry, M.P., and other gentlemen spoke, and a committee was appointed to deal with the matter.

Hospital Accommodation wanted at North Shields.

At a meeting of the Tynemouth town council the sanitary committee in their report stated that the medical officer had called their attention to the limited accommodation at the hospital, and said he had been compelled to refuse to admit some patients from a house in which there were several cases of typhoid fever; he urged the necessity for further accommodation and that the matter should receive the immediate attention of the committee. The report was agreed to without comment.

Sunderland's Infant Mortality.

The rate of infantile mortality is on the increase in Sunderland. Last week there were 70 deaths, of which 41 were those of children under five years of age.

The Fleming Memorial Children's Hospital.

The committee of gentlemen who promoted the fancy dress ball last season in aid of the funds of the Fleming Memorial Children's Hospital, which proved such a great success and enabled them to hand over to the treasurer the sum of £203, are again making arrangements for a similar entertainment to be held on Jan. 8th.

Newcastle-on-Tyne, Oct. 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Edinburgh Royal College of Physicians and the Proposed New City Hospital.

As has already been stated, when the question of increasing the accommodation at the City Hospital came up for consideration, there was a difference of opinion as to whether the present hospital should be enlarged or a site procured for a new hospital. The matter was very wisely submitted to the Royal College of Physicians for an authoritative opinion on the matter. This, as was indicated at the time, was an important departure and a most enlightened step on the part of the civic authorities. The Royal College of Physicians was duly sensible of its importance and appointed a committee to carefully consider the whole question, and their report, as accepted by the College, has now been made public. Without going into the details of that report, it points out the inexpediency and undesirability of extending the present hospital, for one reason amongst others that it is in a densely populated part of the town. It suggests two suitable sites for a new hospital, one site being at South Grange in the south side of the city, and the other, also in the south side of the city, on the eastern slope of Blackford Hill. The report prefers the former of these as being equidistant from the Canongate and Dalry districts and only fifteen minutes' walk from the Royal Infirmary. The report also disapproves of a suggestion which had been made that the present building should be used for some of the infectious diseases and the new hospital for others. They consider that a proposal which should not be entertained.

Scottish Universities Commission.

By an order of Her Majesty in Council the powers of the Commissioners under the Universities (Scotland) Act, 1889, have been extended to Jan. 1st, 1896.

Edinburgh University Court.

At the meeting of this court last week several matters of medical interest were considered. Those bearing upon the medical education of women for graduation have been already referred to in the pages of THE LANCET. A number of gentlemen were appointed university lecturers for the current academical year. These appointments are not an indication of any noteworthy departure in the Faculty of Medicine, for the gentlemen obtaining the new title of university lecturer have for some time been assistants to the various professors, and their duties appear to be much the same as they were under their old name, and

their appointments are only for the current year, which means that they are to be made annually, as has hitherto been the practice. The University can, however, now point to its lecturers on experimental physiology and histology, on regional anatomy, on experimental pharmacology, on pathological bacteriology, and others. The new arrangement sounds better, but it is hardly the kind of thing that the friends of the University might have desired. Professor Frankland's laboratory at Mason College, Birmingham, was recognised as qualifying for graduation in public health; and Dr. Berry Hart, Edinburgh, was recognised as a teacher of midwifery. A proposal by the Professor of Chemistry to give a new course in organic chemistry during the winter, at a fee of £2 2s., was approved of.

Infectious Diseases Hospital for Leith.

The ceremony of unveiling the memorial stones of this new hospital was performed by the provost of the burgh on Monday last. They are built on an area of about six acres in the cottage style. The buildings are of brick, and include four ward blocks, isolation ward, administrative block, discharging block, laundry and disinfecting block, mortuary, and reception rooms. Each of the ward blocks is to be divided into two, in each of which there will be ten beds and two additional beds for delirious or private patients. In the isolation ward there will be ten beds. There will be ninety-eight beds in all. The sanitary arrangements are regarded as perfect. When fully equipped it is estimated to cost £35,000. It is to be under the charge of the medical officer of health with a resident medical officer.

The Royal Medical Society, Edinburgh.

The 158th session of this society was inaugurated last week by an address from Sir W. H. Broadbent, Bart., M.D., before a crowded audience of students and a representative body of professors and lecturers. After referring to the important part the society must have taken in the medical life of the university he dwelt upon two things which commanded perennial interest in medicine—the advance of medicine in scientific directions and the cultivation of the qualities which fitted them for its practice. By medicine he meant the art of healing. All the knowledge which all the sciences could bring to them was only a means to an end, and he regretted that the reproach was still brought against medicine that it was only an empiric art, and that physicians could be found who thought so meanly of their profession as to echo this. What was needed to bring therapeutics into line with science was that they should know, not only the effects of drugs, but how those effects were produced. Medicine, by observation and experiment, was answering many questions of this kind. Referring to the protective inoculation practised by Pasteur and others, he regretted that Great Britain had been hindered from contributing to those beneficial results by obstructive legislation. Notwithstanding this, good work was being done in Edinburgh, Cambridge, and London. Science, he held, would ultimately be their guide in the treatment of disease. Splendid advances had been made, and were being made, towards the realisation of this aspiration, and he would have them reserve their highest homage for those extending their knowledge by research and fill their minds with the results of research. The more scientifically minded they were, the better they were qualified to apply real knowledge to the treatment of disease. To make use of knowledge, however, they must have skill, and this was obtained by cultivation of their faculties and of certain mental qualities. The basis of clinical work was observation, and in close relation with it was inference or the right interpretation of the facts of observation. A higher mental faculty was discrimination, and finally a complete mental picture of the case under observation.

The Scottish Universities and the Lyons University Festival.

The Scottish Universities have asked Lord Reay to represent them at Lyons at the opening of the new university buildings there, and his lordship has undertaken to do so.

A Model Lodging-house in Leith.

On Monday last a new model lodging-house, built by the corporation as part of the Leith Improvement Scheme, was opened. There are six dormitories in the house, each containing 28 enclosed beds, making 160 beds in all. The house has been ventilated and heated on the most approved plans, and every attention has been paid to the sanitary arrangement of closets and bath-rooms. Cooking, dining, and reading rooms are provided on the basement floor as well as the necessary washing and drying rooms.

The Edinburgh Medico-Chirurgical Society.

This society will hold its first meeting for the session 1894–95 on Wednesday next, Nov. 7th, in the Royal Society of Arts' rooms, George-street.

Opening of New Craig House Asylum, Edinburgh.

This building, which is in connexion with the Royal Edinburgh Asylum for the Insane, was opened on Oct. 25th, by the Duke of Buccleuch, who was accompanied by the Duchess, in the presence of a large and influential gathering, present by special invitation. After prayers by the Rev. Dr. Macgregor and an interesting account of the history of the institution from the chairman of the managers, Mr. James Howden, Dr. Clouston spoke of its medical aspects. He said that, as insanity was a disease, they had to treat the medical aspect as the most important, if not almost the all-important, aspect of the building. Everything that had taken place in recent medicine in regard to this special subject had shown that mental disease was connected with definite changes in the brain. The more they investigated the more definite this became, and now every large institution considered this branch so important that they retained a pathologist, who did nothing else but work at the scientific or medical aspect of this obscure disease. The result was that year by year the light of science was thrown with more vividness on their subject, making it more amenable to treatment. They had now seven medical officers instead of three or four, but to be as well equipped as the Berlin asylum they ought to have one more yet. But more was needed than the administering of physic. There was what he might call the "conditioning" of the patient, both as to mind and body. He dwelt upon the importance of cleanliness, and sunlight, colour, and beauty, and social recreation, and said that all these had been taken advantage of to the utmost as beneficial for their patients by favourably influencing the brain. Their architect, Mr. Sydney Mitchell, had given them a first-rate and beautiful building suited to the mental condition of the patients. The older institutions had been planned chiefly with a view to restraint. Two hospitals had been erected for those who were physically weak and required nursing. As to the nursing department, hitherto they had had a very good staff of nurses, but lately the Association of Mental Diseases had set up a special system of training for nurses, and he was pleased to say that forty of their staff had passed the examination and held certificates in practical psychological or mental nursing as given by the association. Civilisation had brought them many advantages, but it had also, he was afraid, brought them certain forms of brain trouble, and they, therefore, called upon civilisation to undo the evils it had brought in its train. The Duke of Buccleuch, in formally opening the house, made a short speech. At the luncheon which followed Lord Provost Russell proposed "Success to New Craig House," while Professor Gairdner proposed the health of Dr. Clouston and of the architect. "They were glad to know," he said, "that at the head of this institution they had such a man as Dr. Clouston, who combined with the knowledge of the physician and the administrator admirable powers of exposition and of teaching. As to the architect, Mr. Sydney Mitchell, he was one of the first architects in Scotland, and had produced an institution superior, probably, to anything of its kind that had ever gone before it."

Glasgow and the Hygienic Congress at Budapest.

The Glasgow Town Council having been enterprising enough to send a deputation to this Congress, the delegates (two councillors, with Dr. J. B. Russell, the medical officer of health) have duly presented their report, which is more interesting than such documents generally are. After referring to the subjects discussed at the Congress the report proceeds thus:—"It was a comfort to your delegates to hear the discoverer of the bacillus of diphtheria conclude his most interesting but, to practical sanitarians, somewhat alarming report, with the statement that the congenial habitat of this bacillus is dirt and darkness, and that cleanly, bright and airy dwelling-houses are the most practical safeguard against the epidemic spread of diphtheria. We were referred back to our old warfare against dirt and darkness. As still further bearing upon our own work, we may say that these discussions combined to produce a conviction in our minds that a bacteriological and chemical laboratory is an indispensable adjunct of a Municipal

Sanitary Department. We were happy to think that this had already been provided for in the plans of our new premises, and we can only bespeak for its equipment the liberal consideration of the Health Committee. A most interesting adjunct of the Congress was the hygienic exhibition, to which we devoted considerable attention. We were struck with the prominence given to the graphic representation of statistical results and to the various aspects of military medical service, to plans of hospitals, to the engineering details of water-supply and the collection and disposal of sewage of towns, to the methods and appliances of disinfection, &c., all of which, as compared with similar exhibitions of older date, satisfied us that throughout Europe great strides are being taken both in municipal and Governmental care for the welfare of the people, especially in cities. At the same time the municipalities and Governments are following this country, and as yet, at a considerable distance in the rear, so that we cannot say there is much in general to be learned by us. A special department in the museum was devoted to cremation, and it was a surprise to us to discover how far this method of disposing of the dead had advanced on the Continent, and with how much concerted vigour it is being pushed. Cremation is organised in all European countries. We must protest against one of the methods of the societies, which made the room filled by their exhibits gruesome and disgusting—viz., the issue of photogravures showing, with due specification of initials and age, the exact appearance of certain unfortunates whose remains had been exhumed after different periods of decomposition in the ordinary method of interment. Such horrors are not only repulsive, but they are scientifically erroneous viewed as an argument for cremation. The annual meeting of German-speaking cremation societies was held in Budapest, and devoted two days to papers and discussions, winding up with a banquet—surely the most extraordinary as to occasion which can be conceived. We suppose the viands would be 'funeral bake-meats.' During our stay in Budapest we visited general, infectious, and children's hospitals, an establishment for the sterilisation of milk, and the premises of a volunteer club of educated young men who efficiently carry on an ambulance service in the city, which is also available in case of war. The infectious hospital is that of St. Ladislaus, erected by the municipality just outside the lines, not yet opened, but fully equipped. Our inspection of this hospital was very interesting. It possesses remarkable excellences and remarkable defects. Among the former was the arrangement for the supply of fresh air, purified and, when necessary, heated; among the latter were the dormitories for nurses. We also saw hot sulphurous and mud baths provided for popular use. The city abounds in, and has been famous for centuries for, hot springs used for baths, which are, however, for the most part in private hands, and used as a luxury of the well-to-do."

Oct. 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Small-pox in Dublin.

THE outbreak of small-pox still continues to spread in Dublin, contrary to the prognostications of the medical authorities, and the epidemic has proved that vaccination among the poorer classes has been greatly neglected. It also appears that several persons had died, although vaccinated; but so far as I can learn there has not been a fatal case where revaccination had been properly carried out. The Cork-street Fever Hospital cannot admit any more small-pox patients into its wards, and the management have appealed to the guardians of both the North and South Dublin Unions, requesting their aid. The Local Government Board have written to the guardians of both unions that they were under obligation to provide all necessary accommodation for the treatment of the sick poor, that hospital accommodation included the treatment of dangerous infectious diseases, such as small-pox, and that they (the guardians) were empowered to admit to the hospitals provided by them for infectious diseases persons who were able to pay for their maintenance therein; but the Hardwicke and Cork-street Hospitals had now reached their limits of accommodation. The guardians have removed 300 in the poor-house from the Kilmainham sheds, and at the suggestion of Mr. Stafford, Local Government Board Inspector, have resolved to enter into arrangements with the Cork-street Hospital to place whatever convalescent cases they had in the Kilmainham sheds, leaving Cork-street Hospital to deal with the acute cases.

Royal Academy of Medicine in Ireland.

The annual general meeting of the Royal Academy of Medicine was held on Friday, Oct. 26th, to appoint a President and other office-bearers for the season, Dr. Kidd's term of office as President having terminated. Dr. James Little was elected President of the Academy for three years. In the section of State Medicine a lady member of the Academy, Miss Winifred Dickson, was appointed to the Council.

Dublin Hospital Sunday.

On Sunday, Nov. 11th, the twenty-first annual collection will take place in aid of the Dublin hospitals which participate in the fund. Last year a sum of £4230 was obtained, being a few pounds under the amount received the previous year. On Nov. 10th a football match will take place at Lansdowne-road in aid of the fund. Should the second Sunday in November be a fine day it will materially help to increase the collections at the various churches.

Graduates' Tercentenary Memorial, Trinity College.

The arrangement which was made to erect a hall as a memorial of the tercentenary of Trinity College has been lost sight of for some time past. A considerable amount of money was subscribed by graduates at home and in the colonies in order that a building should be erected to accommodate the various societies and for other purposes. It is now pointed out that, although the movement was started in 1892, two years have elapsed, and apparently nothing has been done to carry out the memorial. About a year ago an appeal was made to the graduates' memorial committee for some definite information regarding the progress of the movement, and a promise was made by the secretaries of the committee that so soon as a suitable site was allotted by the board of Trinity College they would immediately, at a public meeting or otherwise, publish a report on the progress of the movement in the newspapers. Surely ample time has been given to the committee to act in this matter.

Cork Eye, Ear, and Throat Hospital.

The committee of management met last week in reference to the rebuilding fund. A letter was read to the effect that an anonymous gentleman was willing to give £1000 to be used for the purpose of rebuilding, repairing, or otherwise assisting the hospital. Dr. Sandford, ophthalmic surgeon to the institution, who had advanced £250 while the hospital was in a bad financial condition, has generously consented to forego the debt.

Maryborough Lunatic Asylum.

The position of affairs in this asylum is not at all creditable to the authorities. All the corridors are occupied by beds, and the inmates are afraid that an epidemic of beriberi may occur from the overcrowding. There is but one bath for 450 patients. Although the governors have again and again drawn the attention of the board of control to this, the latter for the past year have delayed to supply the baths and closets which are required. Additions estimated to cost £36,000 are in contemplation, and will be commenced next month.

Surgeon-Lieutenant-Colonel Quinlan died last week at Wicklow from apoplexy. Deceased was sixty-two years of age, and had seen active service under Lord Roberts and Lord Wolseley. He had a medal and clasp for service in Afghanistan.

Dr. M. J. Sheridan has been appointed a Justice of the Peace for Wexford.

Oct. 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Revaccination and its Effect.

M. HERVIEUX informs us[1] that for the past seven weeks not a single case of small-pox has been reported in Paris. Not since fifteen years ago has such a phenomenon been noted, and this satisfactory condition of affairs contrasts strongly

[1] Académie de Médecine, Oct. 23rd, 1894.

with what obtained about the same time last year. To what may be attributed this happy state of things? M. Hervieux answers unhesitatingly: to the wholesale revaccination practised through the initial aid of Dr. Martin, Inspecteur-Général de l'Assainissement. The Academy of Medicine can also claim some credit, for its vaccinating department supplied large numbers of tubes and organised extra vaccinating *séances*. Such a brilliant result could not, says M. Hervieux, have been attained had human instead of calf lymph been used.

Overcrowding.

M. Bertillon[2] applied the term "overcrowding" (*surpeuplement*) to a household the number of persons composing which exceeds twice the number of rooms available. Reckoning thus, there are in Paris 332,000 persons, or 14 per cent. of the total population, who are victims of overcrowding. This proportion varies from one arrondissement to another, and, as might have been expected, a map representing the overcrowded districts represents also those very districts in which the mortality is greatest. Transmissible affections, and notably phthisis, are much more rife in overcrowded districts. But if Paris suffers from overcrowding the state of things is even worse in other European capitals. In Berlin and Vienna 28 per cent. of the population are affected by overcrowding, the corresponding numbers at St. Petersburg, Moscow, and Budapest being 46, 31, and 71 per cent. M. Bertillon suggests as a remedy for this moral and physical danger the construction of workmen's dwellings.

Pathogenesis and Treatment of Influenza.

It is well known how popular the quinine treatment of influenza was when that *maladie à la mode* visited our shores. So far as my knowledge goes this mode of treatment was strictly empirical, no laboratory experiments having been made on its action. The medical world will therefore be glad to know that the experiments of M. Mossé have confirmed the good opinion entertained of the value of this drug in combating "la grippe." Rabbits were inoculated with the blood of influenza patients, and then quinine was injected subcutaneously. Four out of six of these animals remained unaffected, whilst test rabbits unprotected by the drug became very ill. Again, rabbits inoculated with pure cultures of Pfeiffer's microbe (furnished by M. Roux) were quite capable of supporting this inoculation, provided subcutaneous injections of quinine had been previously practised. Of three unprotected rabbits, two were killed by the inoculation. Efforts to cultivate (on gelatine) the pathogenic bacillus from the blood of an influenza patient were always unsuccessful. In one instance the pneumococcus and in another the staphylococcus were obtained. The blood of animals experimentally infected with influenza yielded the specific micro-organism only on one occasion. This culture was endowed with but feeble vitality, and proved to be non-virulent. M. Mossé arrives at the conclusion that the influenza bacillus is found only exceptionally in the blood, and that when so found its virulence is enfeebled. It is, moreover, unable to live in an organism in which the drug in question circulates—viz., quinine. It would thus appear that the exhibition of quinine as a prophylactic is justified; that it should be prescribed in large doses as an abortive agent; and that, finally, grave secondary infections, especially if due to the pneumococcus, call for hypodermic injections of quinine.

A Case of Narcolepsy.

The *Archives de Médecine Militaire* for 1894 (p. 132) contain the history of a case of narcolepsy, the subject being a soldier who suffered daily from sudden attacks of somnolence. The patient, of robust constitution and free from pathological antecedents, was engaged as a workman in the metallurgical works of Isberg. In June, 1890, he complained of general lassitude, which gradually culminated in four or five days in a comatose state which the efforts of his friends could not dissipate. He remained in this condition for five weeks, but every two or three days he would wake up to be fed. During the meal, however, he would relapse into his former state. Gradually the intervals of wakefulness became more frequent, and for the last year only two or three daily attacks of sleepiness have occurred. On rare occasions he would remain awake all day. While under observation in hospital (in January, 1893) it was noticed that at unexpected moments, and irrespectively of the nature of his occupation at the time, sudden sleep would supervene. If standing, the frailest prop enabled him to sleep in that position, although the slightest push upset his equilibrium, when he would fall "all of a lump." Did he fall asleep unprovided with a support he "doubled up" and fell softly. If the attack came on whilst he was walking he would continue his progress so long as he did not come in contact with an obstacle. He had even been seen to fall asleep whilst walking upstairs. In this case he would fall on his face. Sleep was very profound and calm, and lasted from ten (minimum) to thirty minutes (maximum); waking was natural. During slumber the reflexes were suspended. The pupils, normally contracted, appeared still more so during sleep. There was an absence of convulsions, of incontinence of urine, of hæmorrhagic spots on the face and chest (hysterical stigmata), and of all symptoms of mental degeneration. Purgatives, nervine tonics, electricity, and hydrotherapy all proved useless in influencing the frequency or duration of these strange seizures.

Death of Dr. Legroux.

It is with much regret that I record the death at the early age of fifty-five of Dr. A. Legroux, Professeur-agrégé of the Faculty and Physician to the Trousseau (Children's) Hospital. The son of Dr. J. C. L. Legroux, himself a Professeur-agrégé and Médecin des Hôpitaux de Paris, he was a distinguished member of the Faculty, and was deservedly popular with the students, who were his assiduous followers in the wards of Laennec and Trousseau. In 1870–71 he organised the Ambulances de la Presse, des Dames de la Halle, de la rue du Chevet, &c., and shared with the late Professeur Lasègue the care of the scurvy patients at the Prison of Ste. Pélagie. In 1881 he delivered at the Faculty for Professor Péter a series of lectures on medicine, and in the following year rendered a similar service to Professor Jaccoud. Of late years he devoted himself more particularly to the study of diseases of children. He was a voluminous writer, a most able clinician, and a loyal *confrère*.

Oct. 30th.

[2] Loc. cit.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Diphtheria by Antitoxin.

THE first report on the therapeutic value of Behring's antitoxin in the treatment of diphtheria has been communicated to the Budapest Society of Physicians by Professor Johann Bokai, the well-known pædiatric physician. He used the serum at the Budapest Stephanie Hospital for Children from Sept. 21st till October 22nd, when the treatment had to be stopped on account of the lack of the serum, which had not been obtainable since then from the German clinical establishment at Hoechst, near Frankfort. During the time stated above 35 cases of diphtheria were treated with the serum. There were 9 cases of pharyngeal diphtheria, 7 cases of pharyngeal diphtheria combined with nasal diphtheria, 4 cases of pharyngeal diphtheria combined with slight laryngeal diphtheria, and 15 severe cases of laryngeal diphtheria. There were, therefore, 37 per cent. of mild and 63 per cent. of severe cases. The oldest patient was twelve years of age, and the majority of the cases (20) were below four years of age. Five of the 35 cases died, giving a mortality of 14⅓ per cent. This result seems very satisfactory if compared with the statistics of the previous epidemics. The following table shows the number of children treated from October, 1891 to 1894:—

October.	Admitted.	Died.	Recovered.	Percentage of recoveries.
1891	74	72	32	43·2
1892	56	24	32	57·1
1893	60	37	23	38·3
1894	35	5	30	85·6

Regarding the immunising power of the serum, the results were less favourable, and there were cases which underwent relapse, though injections of the serum had been made. It seems that the serum is excreted within from eight to seventeen days after the injection, and that the organism loses its immunity in the course of this short time. In some cases

where the serum had been injected prophylactically the children did not develop diphtheria during the first few days after they had been exposed to infection, but were affected five, or even ten, weeks after the prophylactic injections. As the serum contains ½ per cent. of carbolic acid, repeated injections may cause symptoms due to the presence of this poison. The production of slight urticaria was the only result observed. The injections of the serum had no influence with regard to the occurrence of septic processes or of paralysis. The necessity of performing intubation or tracheotomy is not diminished by the use of the serum.

Oct. 29th.

Obituary.

PROFESSOR FRANCESCO GASCO.

FROM Rome, under date the 24th ult., we have received the following:—"Our medical school—and, indeed, the biological sciences throughout Italy—have sustained a heavy loss by the death of Dr. Francesco Gasco, Professor of Comparative Anatomy and Embryology in the University. Professor Gasco had been suffering from acute nephritis, which latterly assumed an aggravated form and which caused his death on Oct. 23rd. A Piedmontese by birth, Professor Gasco left the Genoese school for the metropolitan chair with the highest credentials, and these he more than justified by his painstaking, circumspect work in the laboratory and his power of lucid and attractive exposition in the lecture-room. Keeping himself in touch with the leaders of biological research north of the Alps, he was never happier than when according them a kindly welcome to Rome and showing them a hospitality which they generally acknowledged in the congenial form of an address to his students. Professor Ernst Haeckel of Jena was one of these, and on the celebration of his jubilee early in the present year he took occasion, among the gratifying compliments he received, to signalise the congratulations of the Roman school as that whose work he had witnessed, and of whose future he cherished the most sanguine anticipations. Later in the season Professor Gasco had the opportunity, ever welcome to him, of entertaining not a few members of the International Medical Congress, all of whom went away from his laboratory and his prælections with admiration of the investigator and teacher and cordial goodwill towards the man. Professor Gasco had another side to his vigorous and versatile personality, and that was the legislative interest, particularly in the departments of education, medicine, and public health. A member of the Consiglio Superior di Sanità, he was also a deputy in the Chamber, sitting for the Subalpine constituency of Savigliano. In the latter capacity he was a prominent member of the Left Centre, and was always listened to with respect, as he never spoke but on subjects to which he had given special attention, such as the Budget of Public Instruction, the Bertani Public Health Act, the legislative dealings with pellagra, and various local and general aspects of sanitary or hygienic law. He was, in fact, the right-hand man of Dr. Baccelli in the Chamber when that medical statesman, whether in office or in opposition, had a special policy to promote; and throughout his whole parliamentary career he was, like Semmola, Moleschott, Lanza, Verga, and Tommasi-Crudeli, an exemplar of how effectively the trained scientific and medical intellect can intervene in the discussion of affairs and for the advancement of the common weal. An ardent evolutionist who never wavered in his loyalty to Darwin, his tenure of the Comparative Anatomy chair from 1882, when he was appointed, till the day of his death was signalised by the frankest and freest acceptance of the new biological departure. His inaugural address on the 'Influence of Biology on Modern Thought' is still remembered for its wide and accurate knowledge of detail and its philosophical grasp of principle; while his special studies on the 'Development and Fecundation of the Ova in the Amphibia,' on the 'Skeleton of the Whale stranded at Taranto,' and, indeed, on the comparative osteology of the cetacea in general, give him a high place in the roll of research. He took part in many biological expeditions, notably in that headed by Professors Panceri and Costa to Egypt for the investigation of the poisonous reptilia, and he illustrated the homological bearings of various Mediterranean echinoderms previously little known to science. He took an active interest in practical medicine, which he persistently maintained could be advanced and perfected only if approached and studied as a 'branch of natural history,' and was rarely absent from the discussion of the Accademia Medica di Roma, of which his friend and patron, Dr. Baccelli, is president. His influence on the students of the University, particularly on those preparing for the profession of healing, was in every sense most salutary—not least for his elevated standard of 'what knowledge of a subject means,' and his intolerance of everything that was 'less than thorough.' Full of ideas, inspiring the fresh forth-putting of energy, he was on the eve of important contributions to the treasure-house of biology when death cut him down in his prime. His native town of Mondovi in Piedmont suspended all business on the news of his decease; the University of Rome hoisted the flag of the Sapienza, in mourning, half-mast high; and the Rector and Senatus Academicus and students individually left tributes of condolence with his widow. The funeral was a public one—among the most impressive ever witnessed in Rome. Among the chief mourners were the Cabinet Ministers Baccelli and Ferraris; a large number of members of both Houses of Parliament, representing all political interests; Dr. Toscani (President of the Faculty of Medicine); the Senatus Academicus, the Communal Council, the Municipality, all the leading citizens, and the students *en masse*. The customary *oraisons funèbres* were pronounced over his grave, not the least effective being that delivered in the name of the Subalpine community that gave him birth."

WILLIAM FREDERICK DEWSNAP, M.R.C.S. ENG., L.R.C.P. LOND.

THE sad and premature decease of Mr. W. F. Dewsnap, of 8, Gloucester-road, South Kensington, which took place at the house of his father-in-law, Mr. Michell of Marazion, on Saturday, Oct. 27th, has been a source of great and severe grief to his numerous friends. He fell a victim to a virulent attack of enteric fever.

William Frederick Dewsnap was born on June 13th, 1862, and died on Oct. 27th at the age of thirty-two years. He was the son of Mr. William Dewsnap, a well-known practitioner in Hammersmith for the last forty-two years, while his grandfather, Mark Dewsnap, practised for no less than fifty-five years (1815–1870) in the same locality—truly an honourable medical descent and one of which its possessor might be justly proud. After a thoroughly good educational training at Littlehampton and at Hammersmith, and afterwards under a private tutor, he entered St. George's Hospital in October, 1880. Passing his "finals" in 1885, he held the post of house surgeon for a year, as well as several less important appointments. In 1886 he entered the service of the Peninsular and Oriental Steam Navigation Company as surgeon, a position which he retained till 1888. Later he was assistant medical officer at Colney Hatch Asylum, and in 1891 went into partnership with Dr. Charles Ewart of Queen's-gate-terrace. He married the daughter of Mr. A. O. Michell of Chymorvah, Marazion, Cornwall, and by her leaves two children, the youngest being only a few months old. Mr. and Mrs. Dewsnap left home for their holiday at the end of September, making their headquarters at Marazion, while they paid a number of visits to different parts of Cornwall. Typhoid symptoms seem to have developed about Oct. 19th, although for some days before he had complained of feeling unwell. The disease appeared to be pursuing a satisfactory course, and on Oct. 26th he was reported to be doing well. The next day, however, hæmorrhage set in and he quickly sank and died from exhaustion. A very distressing fact to be added is that his unfortunate and devoted wife has been attacked by the same complaint, and is now lying dangerously ill, though at the time of writing we hear with much satisfaction that she is progressing favourably. The funeral took place on Thursday last, and the body was interred in a pretty country churchyard about three miles from Marazion.

The news of Mr. Dewsnap's death has been, as we have said, received with marked sorrow by all who knew him. In his profession he was a thoroughly competent and accomplished man, possessing good common sense, and, as we have shown, large practical experience. His modesty made him ever ready to receive assistance from, his kindness of heart ever

ready to give it to, a brother medical man. He was upright in the highest and strictest sense of the word. Ever kind and thoughtful of the feelings of others, with a temperament that could not be ruffled and a charity that was as general as persistent, he led an essentially unselfish life, and truly did his duty towards God and man. "To know him was to esteem him," writes one of his intimate friends and contemporaries, "and to envy his fine, manly, straightforward qualities. He had many acquaintances, but few with whom he would have claimed an intimate friendship; but between the latter and himself there existed a bond of affection which death alone could break."

DEATHS OF FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Perles, late assistant in Professor Hirschberg's Ophthalmic Clinic, Berlin. He recently published researches on pigmented cataract and on general infection of the interior of the eye in so-called pernicious anæmia.—Dr. J. J. Stolnikoff, Professor of Clinical Therapeutics in the University of Warsaw.—Dr. V. A. Betz, Emeritus Professor of Anatomy in the University of Kieff.—Dr. R. Calvo, Professor of Anatomy in the University of Carthagena, Colombia.—Dr. Leopold Lewin, Medical Director of the Moabit Prison Infirmary, Berlin, whose name may be remembered in connexion with the attempt on the German Emperor's (William the First) life by Nobiling, as he was the first medical man to attend to the wound. He was a volunteer surgeon in the Franco-Prussian war, when he was in charge of the ambulance hospital at Epernay.

TENTH ANNUAL MEETING OF FELLOWS AND MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE tenth annual meeting of the Fellows and Members of the Royal College of Surgeons of England was held on Thursday, Nov. 1st, when the President, Mr. J. W. Hulke, F.R.S., presided. In opening the proceedings the President briefly alluded to the improvement in the form and substance of the Council's report to the Fellows and Members, which we fully reviewed in THE LANCET of Oct. 27th.

Referring to the Gresham University project, which at present remained unrealised, the President said that resolutions in favour of the general principles of the scheme propounded by the Royal Commissioners were passed early in the year by the Council of the College and at the meetings of the Fellows and Members. Similar resolutions were passed by the Royal College of Physicians and also at a meeting of delegates from both the Royal Colleges. These might, perhaps, contribute to encourage Her Majesty's Government to introduce in the course of the approaching Parliamentary session the legislative measure necessary as preliminary to the final accomplishment of the project in the founding of a teaching, examining, and degree-conferring university worthy of this great metropolis. An important event in the internal relations of the College was the institution of meetings of the Fellows within the College, convened at fixed dates, and the meetings of Members. It was hoped that these meetings, by affording opportunities of direct communication between the Fellows, the Members, and the Council, would prove useful. The present by-law having long been found insufficient to enable the Council to deal with some forms of misconduct deserving of censure, and even of the penalty of forfeiting the College diploma, the Council have decided to apply to the Home Secretary for an alteration enlarging the scope of this by-law. As evidence of the need of some alteration in this direction he mentioned that at the present time there were on the College roll the names of three Members whose names had been struck off the Register of the General Medical Council, whilst the Royal College of Surgeons under the present by-law was unable to remove the names of these Members from the roll. The opinion had been occasionally expressed that the Council had not sufficiently used the existing powers of restraint, but it should be borne in mind that procedure against alleged offenders could only follow the production of evidence of a legal value, and not infrequently this was not to be obtained. With the idea of returning the courtesies shown to the College by important public and other bodies, and of helping the College to maintain its legitimate position amongst the great institutions of the metropolis, the Council had decided to entertain distinguished guests at a dinner to be given in the years alternating with those of the Hunterian Festival. This had already met with the full concurrence of the Fellows, and he hoped that the propriety of the measure would be recognised by the present meeting. The President next touched upon the good work done in the laboratories on the Embankment under the directorship of Dr. Sims Woodhead, and directed attention to the financial part of the report, which, together with the appendix, gave full details of their present financial position. Many of the collections in the museum were being revised and recatalogued, and numerous specimens had been added during the year. He impressed on all those who contributed pathological specimens the importance of supplying with them accurate clinical notes, the want of which greatly lessened the value of many of the earlier specimens. Under the management of Mr. Bailey the library also continued to flourish. A noteworthy addition was an interesting collection of papers and drawings presented by the executors of the late Sir Richard Owen. The tabular statements in the report of the results of the several examinations deserved the careful consideration of all interested in medical education, and the high percentages of rejections afforded matter for reflection. From his own knowledge he did not think these arose from undue severity. With regard to anatomy, he had an impression that there was less dissecting done by students than formerly, and that there was now more collective class teaching and less individual instruction in the dissecting-room than when he was an anatomical teacher. The admirable illustrations to be found in text-books and the large series of finished dissections of parts and organs found in the museums of the medical schools were too often used in place of actual dissecting. It was his conviction that senseless grinding and cramming were now being pressed to excess in every branch of work, and he submitted that this fostered superficiality and weakness. In the course of the past year 31 Fellows and 313 Members had died. Of the former, 11 were Fellows by examination. The accession of Fellows had been 54, and of Members 485, making an increase of 33 Fellows and of 172 Members on the roll.

A resolution in the name of Mr. Joseph Smith, having for its object the recognition of the right of Members to have a voice in the election of members of the Council, being read the President remarked that in his judgment it was out of order, but in view of the elasticity displayed on former occasions he would not rule it so.

Mr. Joseph Smith deplored the fact that there was no hope of concession held out in the speech of the President. The object of the resolution had been lauded by the whole of the medical press and by all those who had taken interest in the College and the cause of reform. The fourteen or fifteen thousand Members had no voice whatever in the spending of the money of the College. It was possible that the report might contain matter of no interest to the Members, and that meant that they would have nothing to discuss. He would withdraw his resolution and go on with the matter no further.

It being decided, by a vote of 11 to 9, that the matter should be discussed, Dr. Alderson submitted Mr. Smith's resolution in an amended form, which read as follows:—"This meeting is of opinion that the resolution which has so frequently been passed almost unanimously at meetings of Fellows and Members—viz., that Members of the College should have some voice in the election of Members of Council—be approved, and that the President and Council be respectfully asked to give effect to such resolution by giving a certain proportion of deserving Members a seat on the Council." Dr. Alderson adverted to the decline in the finances of the College. He referred to the articles in THE LANCET, and asked if nothing could be done to increase the resources. He considered that many young men felt out of touch with their College.

Mr. Mead, who seconded the resolution, thought the Council had a splendid opportunity of doing an enormous amount of good to the profession at large.

Mr. Craven was struck with the small attendance of Fellows and Members at the College lectures.

Mr. Hulke said there was an impression that Members were not represented on the Council, but it should be borne in mind that every Fellow was a Member.

Mr. Thomas Smith said that it had been the constant

endeavour of the Council to get the Government to grant them some power of giving a degree ranking with the M.D. degree. Such efforts were still being made and he thought it hard that they should be accused of not working for this diploma.

The resolution on being put was carried by 25 votes to 8.

Surgeon-Major John Ince then moved, in a humorous speech: "That this meeting of the Fellows and Members of the College desires to thank the Council for the favourable report now presented, especially for the graceful concessions relating to the separate meetings of the Fellows and of the Members; and, further, it hereby expresses its cordial approval of the proposed alterations of By-laws Sections 4 and 16, as set forth therein at pages 14 and 12 respectively."

After some brief remarks by Messrs. Holmes, Hutchinson, Nelson Hardy, and Howard Marsh, the motion was carried by 19 to 6.

The proceedings then terminated.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND OF SURGEONS.—The following gentlemen passed the First Examination of the Board, in the subjects indicated, at the quarterly meeting of the examiners, under the five years' regulations:—

Part I., Chemistry and Physics:

Ashby, Edgar, Guy's Hospital.
Baskin, Joseph Longhead, Queen's College, Cork.
Battersby, James, St. Mungo's College, Glasgow.
May, Walter John, Charing-cross Hospital.
Mellish, John Alfred, St. George's Hospital.
Seller, Alfred Edward, London Hospital.
Walker, Arthur West, Mason College, Birmingham.

Part II., Practical Pharmacy:

Alcock, William, Firth College, Sheffield.
Bates, George Llewellyn, Charing-cross Hospital.
Bawtree, Frank, St. Thomas's Hospital.
Bennett, William Fay, St. Bartholomew's Hospital.
Berryman, Edmund Newton, St. Bartholomew's Hospital.
Brooks, Frederick Richard, St. Bartholomew's Hospital.
Clarke, Henry Hugh Rose, St. Thomas's Hospital.
Coleman, Frank, Charing-cross Hospital.
Fenton, Thomas Gerald, St. Thomas's Hospital.
Gardiner, Percy, Middlesex Hospital.
Gaster, Sidney, London Hospital.
Hall, Richard Charles Baker, Mason College, Birmingham.
Harness, Henri Nelson, King's College, London.
Hasler, Frederic, London Hospital.
Henshaw, William Alfred, Mason College, Birmingham.
Horton, Horatia Nelson, Middlesex Hospital.
Jensen, Ernest Thomas, Guy's Hospital.
Lowndes, Douglas Victor, London Hospital.
Mercer, Alexander, University College, London.
Milner, Norton, Firth College, Sheffield.
Moss, Bertram Wilmore, Guy's Hospital.
Norris, Hugh Leigh, St. Thomas's Hospital.
Orton, Lionel Edward, Mason College, Birmingham.
Pike, Cyprian Royston, London Hospital.
Robinson, Henry Harold, Owens College, Manchester.
Smallwood, George Valentine, Mason College, Birmingham.
Smith, Edward Protheroe, Middlesex Hospital.
Smith, James Nicholson, Guy's Hospital.
Stevenson, Ernest Bruce, St. Bartholomew's Hospital.
Ward, George Stafford, London Hospital.
Waters, Walter James, St. Thomas's Hospital.
Willis, William Frederick, St. Mary's Hospital.
Willson, Arthur Herbert, Oxford University.

Part III., Elementary Biology:

Chetwood, Thomas, St. Bartholomew's Hospital.
Crew, Edward John, Guy's Hospital.
Francis, William Vare Chalmers, Westminster Hospital.
Rees Rees, William, Surgeons' Hall, Edinburgh.
Stilwell, Henry Francis, St. Bartholomew's Hospital.
Stratford, Howard Martin Blenheim, Oxford University.

Part IV., Elementary Anatomy:

Allen, Thomas Percival, St. Bartholomew's Hospital.
Blathwayt, Arthur de Visine, University College, London.
Bullmore, Edward Augustus, University College, London.
Evans, Charles Edward, University College, London.
Foss, Edwin Vincent, University College, Bristol.
Hart-Smith, Humphry Morshed, Cambridge University.
Jensen, Ernest Thomas, Guy's Hospital.
May, Harry John, London Hospital.
Pemberton, Walter D'Urban, St. Thomas's Hospital.
Rees Rees, William, Surgeons' Hall, Edinburgh.
Sass, Frederick Joseph Wilfred, St. Mary's Hospital.
Smith, Hugh, Mason College, Birmingham.
Stilwell, Henry Francis, St. Bartholomew's Hospital.
Talbot, Thomas Harrison, St. Bartholomew's Hospital.
Tongue, Edwin John, Guy's Hospital.
Ward Percy Harold, Guy's Hospital.

UNIVERSITY OF EDINBURGH.—The following candidates received the degrees of Bachelor of Medicine and Master in Surgery on Oct. 27th, 1894:—

Anderson, William Black, Scotland.
Anderson, William Smeaton, Scotland.
Bannerman, William, Australia.
Beatty, Guy, Ireland.
Broster, William Broster, England.
Cazalet, Charles Harvey Hinrich, England.
Cookson, Joseph, England.
Copplestone, Alfred John, England.
Cowper, Alfred, M.A., Scotland.
Dawson, Robert Pitillo, Scotland.
*Derham, Thomas Hanson Crossfield, England.
Dun, Harry Winterton, England.
Elliott, Henry Pritchard, England.
Farquharson, David Anderson, Scotland.
Featherstone, Joseph Arthur, England.
Forbes, Thomas Dewar, Scotland.
Forrester, Harvie, Scotland.
Forster, Arthur Graham Foljambe, England.
Fox, Walter Tipping Brook, England.
Freer, Robert Mylcraine, England.
Gabites, George Edward, B.Sc., New Zealand.
Gee, Thomas Henry, England.
Glover, Thomas Anderson, Scotland.
Good, Joseph Ernest, Australia.
Hall, Sydney Herbert, England.
Hyam, Srmuel Priestley, Australia.
Jarratt, Alfred Kaye, England.
Kay, James Graham, England.
Lander, Herbert William Graham, England.
Lowis, Horace Lake, England.
Mackenzie, John Coull, Scotland.
Mackenzie, William Hector, Scotland.
Mackinnon, John, Scotland.
†MacVicar, Neil, Scotland.
Moore, Charles Henry Dugald, England.
Paton, James Muir Nelson, Scotland.
Philip, James, Scotland.
Pieterson, George Brading, South Africa.
Rees, John Cadwaladr, Wales.
Ross, Joseph James, Scotland.
Ross, Richard Adolphus, Ireland.
Selkirk, Alexander, Scotland.
Sheward, Charles Railton, England.
Sidebottom, Thomas, England.
Telfer, Charles, England.
Thomas, Frederic Vincent, England.
Watson, Thomas Edgar, Ireland.
Williams, Joseph Richard, Wales.
Williams, William Hugh, Wales.

* With Second Class Honours. † With First Class Honours.

The following gentleman received the degree of Bachelor of Science:—

Malur Srinivasa Rau, M.A.

In the Department of Public Health:—

John Penny, M.B., C.M.

ROYAL UNIVERSITY OF IRELAND.—The following degrees were conferred last week:—

M.B., B.Ch., B.A.O., with Second-class Honours.—Timothy Joseph O'Meara, Robert Watt, Wm. J. Dargan, John Dundon, Geo. Jameson Johnston, Purcell O'Gorman Lalor, Wm. J. Niblock, David Barry, Alfred George Caldwell, Denny E. Cantillion, John Getty Clokey, James Cunningham, Emily E. Eberle, Jane Storrar Gallatly, James Graham, Edith Blanche Joel, Thomas Davey Luke, Sydney Hamilton Rowan Montgomery, Jeremiah O'Callaghan, David O'Donnell, Maurice Sisk, and John Russell Thompson.

FOREIGN UNIVERSITY INTELLIGENCE.—*Cracow:* Dr. Heinrich Hoyer, assistant to Professor Schwalbe in Strasburg, has been appointed to the chair of Comparative Anatomy.—*Budapest:* Dr. Prochnow has been recognised as *privat-docent* in Surgery, and Dr. J. Neumann as *privat-docent* in Laryngology.—*Göttingen:* Dr. Boruttau has been recognised as *privat-docent* in Physiology.—*Guatemala:* Dr. Toledo has been appointed Professor of Anatomy, and Dr. R. Bengoechea Professor of Bacteriology.—*Prague (German University):* Dr. Carl Breus has been promoted to an Extraordinary Professorship of Midwifery and Gynæcology.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The following are the office-bearers for the ensuing session:—Honorary President: Robert Barnes, M.D. President: G. A. Turner, M.D. Senior Vice-President: Robert Kirk, M.D. Junior Vice-President: Malcolm Black, M.D. Secretary: J. Nigel Stark, M.D. Treasurer: A. Miller, L.R.C.P. & S. Reporting Secretary: Robert Jardine, M.D. Pathologist: John Lindsay, M.D. Council: D. N. Knox, M.D.; A. Richmond, M.D.; Wm. Cullen, M.B.; J. R. Kelly, M.D.; A. R. Gunn, M.B.; and T. W. Jenkins, M.B. The Honorary President, Dr. Robert Barnes, will give an address to the society this (Friday) evening.

FOOTBALL CASUALTIES.—On the 25th ult. a trooper, a well-known back of the Royal Horse Guards, while playing for B Squadron against D Squadron, sustained a compound fracture of his left arm.—On Saturday last the following accidents occurred:—During a match between the Preston North End Reserve and the Blackburn Rovers Reserve a player dislocated his knee and was carried off the field.—The Swansea and International full back in a match between Swansea and Newport was "seriously injured," and conveyed to the infirmary.—At Walkden, in the match Walkden Wesleyans against the St. Mary's Park Walkden Association, a player fractured his right leg.—In a match between the Burnley Royle Swifts and the Burnley Reform Club Swifts a player fractured his leg.

A MEDICAL MAYOR.—We observe with satisfaction that Dr. Bartlett of Ipswich has been elected by his fellow townsmen to fill the position of mayor during the coming year. The esteem in which he is held and the public appreciation of his services to the town are shown by the fact that political differences have for the time been put aside, and advocates of antagonistic doctrines have coöperated in raising him to this dignity. Dr. Bartlett is honorary consulting surgeon to the East Suffolk and Ipswich Hospital, and consulting physician to the Suffolk Provident Society. He is also one of the oldest members of the Ipswich Scientific Society, and is keenly interested in its proceedings. The British Association will meet at Ipswich next year, and it is very gratifying that on such an important occasion the chief magistrate of the town will be a distinguished member of our profession.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—At the late general meeting the following office-bearers were elected :—President : James Little. Section of Medicine :—President : Walter G. Smith. Council : J. H. Benson, James Craig, J. Magee Finny, R. Hayes, A. N. Montgomery, J. Moore, J. O'Carroll, A. Parsons, J. Redmond, and H. Tweedy. Section of Surgery :—President : W. T. Stoker. Council : E. H. Bennett, Henry Gray Croly, Henry Fitz-Gibbon, Kendal Franks, E. Hamilton, F. J. Heustor, John Lentaigne, Sir W. Stokes, R. L. Swan, and W. J. Wheeler. Section of Obstetrics :—President : R. Parefoy. Council : L. Atthill, R. Fleming. R. A. Flynn, J. H. Glenn, A. J. Horne, F. Kidd, J. L. Lane, T. Madden, A. J. Smith, and W. J. Smylie. Section of Pathology :—President : J. Scott. Council : A. W. Baker, A. H. Benson, H. C. Earl, E. J. McWeeney, C. Norman, J. O'Carroll, A. R. Parsons, R Patteson, J. M. Purser, and J. B. Story. Section of Anatomy and Physiology :—President : Alec Fraser. Council : A. Birmingham D. J. Coffey, D. Cunningham, H. C. Earl, J. J. Symington, and R. Woods. Section of State Medicine :—President : D. Flinn. Council : E. Cosgrave, E. W. Dickson, Thos. Donnelly, N. Falkiner, J. Moore, and J. M. Redmond.

NOTTINGHAM GENERAL HOSPITAL : MUNIFICENT GIFT BY COLONEL SEELY.—The 112th anniversary of the Nottingham General Hospital was celebrated on Oct. 25th with much ceremony and under very gratifying conditions. At half-past eleven a procession was formed at the Shire Hall. Amongst those present were the President of the institution (Mr. T. I. Birkin, J.P., D.L.), the Mayor and the Sheriff of Nottingham, both in their robes and chains of office, Earl Manvers, Viscount Newark, M.P., Colonel Seely, M.P., Mr. Charles Hilton Seely, the Town Clerk of Nottingham (Sir Samuel George Johnson), and many others. The procession having arrived at St. Mary's Church, divine service was conducted by the Bishop of Peterborough, the Bishop of Southwell, the Archdeacon of Nottingham, and other clergymen. The offertory, which was in aid of the hospital, amounted to £209. After the service the party reassembled in the Shire Hall, the chair being taken by Mr. Birkin, who read letters and telegrams apologising for unavoidable absence on the part of Lord Belper, Mr. Arnold Morley, Sir Henry Oakley, and numerous others. The Rev. Henry Seymour, in reading the report of the monthly board of the hospital, stated that from March 1st to Sept. 1st the admissions of in-patients were 893, of whom 126 were accident cases. During the same period 845 were discharged and 68 died, leaving 142 in hospital on Sept. 1st. The average daily number of in-patients for the half year was 144·7. The total number of out-patients was 5243. The county collection on behalf of the hospital, inaugurated by the Duchess of St. Albans, resulted in an addition of £42 in annual subscriptions and £146 in donations. In 1891 Colonel Seely's generous donation of £1000 enabled the committee to open the convalescent home at Scout-lane, where so much useful work was accomplished that enlargement of the premises was greatly desired in order that male and female patients might be received at all times of the year instead of men only being admitted during the summer months and women during the winter as at present. After much consideration and inspection of various sites and buildings, Colonel Seely lately purchased the house called "The Cedars," standing in grounds of nearly five acres, a freehold estate, on a healthy, dry situation, and having an extensive frontage to the main road from Nottingham to Mansfield. This he has offered to present to the General Hospital, altered at his own cost in accordance with the purpose which it is now to serve, and fully furnished, expressing a hope that it may be treated not as a convalescent home, but as an additional ward under the control of the hospital authorities in fresh air and free from hospital surroundings. In order to assist the general funds of the hospital in carrying out this scheme, Colonel Seely purposes to increase his annual subscription for the present to £200 a year. Legacies and donations amounting to £1630 were acknowledged in the report, and a resolution expressing the hearty thanks of the governors to Colonel Seely was carried by acclamation.

LITERARY INTELLIGENCE.—Messrs. A. and C. Black have announced the impending production of a new "Survey of London." That such a scheme has been in the air for the last two years has been an open secret, and the work is now formally announced to appear in eight volumes, the first of which is to be published in the autumn of 1895. The last edition of Stowe and Strype's famous work was issued in 1754, Maitland's Survey appeared in 1756, Entick's Survey in 1766, and Lambert's Survey in 1806. Since that time, though there have been many books written on London, on parts of London, and on institutions of London, there has been no actual Survey of London. On the change between the London of 1806 and the London over which the jurisdiction of the London County Council extends we need lay no stress, and the whole of this area is to be included in the new Survey. The editor, director, and the principal writer of the work is Mr. Walter Besant, F.S.A., who has made a study of London, not only in books, but in exploration of the streets, the occupation of his leisure hours for more than twenty-five years ; while his recent works on London, the papers from his pen about Westminster (now appearing in the *Pall Mall Magazine*), and his eighteenth century novels sufficiently prove his qualification for the post of editor and director. The work will include a "Perambulation," such as is found in the classic by Stowe and Strype, and in this perambulation the authors will take account of every important building, institution, and company ; every church, chapel, college, school, hospital, orphanage, almshouse, museum, library, &c., in the whole of Greater London. The new Survey is also to comprise a history of London—its liberties, charters, trade, political power, religion, manners, and customs, the aim being to present a picture of the great city as it is from every point of view. The work will be fully illustrated by maps and engravings.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The annual meeting of this society was held at the Holborn Restaurant on Oct. 19th. The retiring President, Dr. Woodforde, occupied the chair, and a large number of Fellows and Members was present, including Drs. Armstrong, Corfield, Dudfield, and Mr. Shirley Murphy (vice-presidents) ; Mr. Lovett, Drs. Kempster, Newsholme, Wightwick, W. R. Smith, Parkes, and others. Mr. S. R. Lovett, the medical officer of health of the St. Giles district and Lincoln's-inn, was duly elected president for the ensuing year. The remaining officers elected were :—Treasurer, Dr. W. H. Kempster ; editor, Dr. Arthur Newsholme ; hon. secs., Drs. J. C. Thresh and Reginald Dudfield ; hon. solicitor, Mr. Henry C. Jones ; auditors, Dr. E. Gwynn and Mr. T. P. Scrivener. A large number of Fellows were nominated for the council, the ballot resulting in the election of the following :—Drs. F. J. Allan, Alfred Ashby, G. P. Bate, Mr. H. L. Bernays, Mr. A. Wynter Blyth, Sir Charles Cameron, Dr. W. Collingridge, Mr. G. H. Fosbroke, Drs. E. Gwynn, A. Bostock Hill, T. Eustace Hill, Mr. C. S. Hall, Drs. H. H. Littlejohn, B. H. Mumby, Mr. C. E. Paget, Mr. H. W. Roberts, Drs. E. Seaton, W. R. Smith, W. N. Thursfield, W. Verdon, B. A. Whitelegge, F. P. Wightwick, and G. Wilson. The treasurer's balance sheet showed that the financial position of the society continued to be satisfactory. The retiring President, Dr. Woodforde, in vacating the chair in favour of his successor, Mr. Lovett, thanked the society for the kindness he had received at their hands during the year, and expressed the hope that Mr. Lovett would receive the hearty support of every member of the society. Mr. Lovett, in taking the chair, thanked the members for the honour they had conferred upon him, and said he would do his best to show them that their confidence had not been misplaced. A vote of thanks to Dr. Woodforde brought the meeting to a close. Afterwards the Fellows dined together at the Holborn Restaurant, Dr. Thorne Thorne, C.B., F.R.S., being the guest of the society and responding to the toast of "The Public Health Service."

ROYAL INSTITUTION.—The general monthly meeting of the members of the Royal Institution will be held on Monday next, Nov. 5th, at five o'clock.

THE next general meeting of the Medico-Psychological Association of Great Britain and Ireland will be held at the rooms of the association, 11, Chandos-street, Cavendish-square, on Thursday, Nov. 15th, at 2.30 P.M., under the presidency of Mr. Conolly Norman, F.R.C.P. Irel. After formal business Dr. Goodall will read a paper, by himself and Dr. Bullen, on Intercurrent Diseases and Insanity; Dr. Campbell will read a paper on the Breaking Strain of the Ribs in the Insane (an analysis of fifty-eight cases treated with an instrument specially devised by Dr. Mercier); and Dr. Neil will read a paper on Melancholia.

BOURNEMOUTH MEDICAL SOCIETY.—The annual meeting of this society was held on Oct. 26th, when the report and balance sheet for the past year were presented and the officers elected for the ensuing year. The report announced increasing vigour in the life of the society, shown by the value of the contributions and the attendance at the meetings, and by the accession of ten new members, four only having resigned. The balance sheet was satisfactory considering that the society had embarked on new and more permanent premises at considerable cost. The following were elected officers of the society:—President: Mr. C. H. Watts Parkinson (Wimborne). Vice-President: Mr. D. C. Embleton. Hon. Sec.: Dr. H. G. Lys. Committee: Mr. Blake, Mr. Kemble (Poole), Dr. Muspratt, Dr. Marriner, and Dr. Ramsay. After the meeting the annual dinner was held at the Grand Fir Vale Hotel. Twenty-seven members and six guests were present.

CROWNHILL CONVALESCENT HOME.—Through the generous munificence of Dr. C. A. Hingston, physician to the Crownhill Convalescent Home, near Plymouth, a home has been erected to replace that at Thrackersknowle, originally founded eleven years ago by Mrs. Fox, and was opened on Oct. 24th. The new building has been constructed on the best approved principles at a cost of nearly £5000. The opening ceremony was presided over by Sir Massey Lopes. Dr. Hingston formally presented the building for the use of the home, and in the course of his remarks spoke of the value of such institutions, and the special needs of Plymouth in this respect. He stated that since the home was founded by the late Mrs. Fox of Firch Park it had been successfully carried on by her son and daughter; and that whilst the plans were being drawn out it was learnt that the late Mr. Pearn had given the town a large sum to build a convalescent home in connexion with the South Devon and East Cornwall and Royal Albert Hospitals; and it was intended to devote the Crownhill institution to the reception of poor people who will not require hospital treatment or who had not passed through any hospital. Sir Massey Lopes and Mr. Reynolds Fox expressed the gratitude all felt towards Dr. Hingston for his generosity.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BARR, JOHN, M.B., J.P., has been reappointed Medical Officer of Health for the Rishton Urban Sanitary District.

BARTLETT, FELIX P., L.R.C.P. Lond., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Cowra, New South Wales, vice E. R. Smith.

COOKE, CHAS. J., M.D., M.Ch., B.A.O. Irel., has been appointed Medical Officer for the Workhouse, Plymouth Incorporation, vice Thomas.

CHISHOLM, WM., M.D. Lond., M.R.C.S., has been appointed Honorary Surgeon to the Sydney Hospital, New South Wales, vice Farrant.

CUMMING, WM., M.D., Ch.M. Edin., has been appointed Medical Officer to the Emmaville Medical Fund and the Hospital, New South Wales.

FITZGERALD, C. G., L.R.C.S., L.M., L.K.Q.C.P. Irel., has been appointed a Public Vaccinator at Seymour, Victoria, Australia.

FYFE, T. H., M.B., C.M. Aberd., has been appointed Medical Officer for the Parish of Edinkillik.

GOODING, ANGELO, L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Surgeon to the Mission for Deep Sea Fishermen.

HALL, THOS. G. H., L.R.C.S., L.M., L.K.Q.C.P. Irel., has been appointed a Public Vaccinator for the District of Whangarei, New Zealand.

HERN, GEORGE, M.R.C.S., L.R.C.P., L.D.S. Eng., has been appointed Assistant Dental Surgeon to the Dental Hospital of London.

HILL, JAS., M.D. Edin., F.R.C.S., has been appointed a Member of the Central Board of Health, Brisbane, Queensland.

HOOD, JAMES J., M.B., Ch.M., D.P.H. Glasg., has been appointed Honorary Surgeon to the Grafton Hospital, New South Wales.

HOPE, E. W., M.D., C.M., D.Sc. Edin., L.R.C.P. Lond., has been appointed Medical Officer of Health for the Liverpool Port Sanitary District, vice Taylor, resigned.

HUNTER, JAS., M.D., Ch.M., L.K.Q.C.P. Irel., has been appointed a Public Vaccinator for the District of Invercargill, New Zealand.

JOHNSTON, G. JAMISON, M.A., M.B., has been appointed Demonstrator of Anatomy at Trinity College, Dublin.

JOHNSON, H. C., L.R.C.P. Lond., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Parkes, New South Wales.

KNOWLES, GEORGE, M.B., Ch.M. Edin., has been appointed Surgeon to the Etheridge District Hospital at Georgetown, Queensland.

LITTLE, J. H., M.B., Ch.M. Edin., has been appointed a Member of the Central Board of Health, Brisbane, Queensland.

LOVE, W. W. R., M.B., Ch.M. Edin., has been appointed Secretary to the Central Board of Health, Brisbane, Queensland, vice O'Doherty.

MACFARLANE, A. M., M.B. Melb., has been appointed Health Officer for Robe, South Australia.

MACKENZIE, MURDOCH, L.R.C.P., L.M., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator for Korumburra, Victoria, Australia.

MILLIGAN, G. C., M.B., C.M. Aberd., has been appointed Medical Officer for the Parish of Dyke.

MOOR, C. G., M.A., F.C.S., has been appointed Analyst to the Church of England Sanitary Association.

MORGAN, ROBERT WILLIAM, M.B., B.S. Durh., has been appointed House Surgeon to the Ripon Hospital and Dispensary.

MYLES, THOS., M.D. Dub., M.Ch., B.A.O., has been appointed Medical Officer for the Bowness Sanitary District of the Wigton Union.

O'DOHERTY, K. J., F.R.C.S., L.M., L.K.Q.C.P. Irel., has been appointed Official Visitor to the Lunatic Reception House and Woogaroo Asylum, Queensland, vice Cannon.

PAWLETT, E. L., L.R.C.P. Lond., M.R.C.S., has been appointed Junior Assistant Medical Officer to the Cornwall County Asylum, Bodmin.

RAYNER, HERBERT E., F.R.C.S Eng., has been appointed Surgical Registrar and Anæsthetist to the Hospital for Sick Children, Great Ormond-street, vice C. F. Marshall, M.D., B.S., F.R.C.S. Eng., resigned.

ROTH, W. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Hospital at Boulia, Queensland.

RUTHERFORD, JAMES, L.R.C.P., L.R.C.S. Edin., L.F.P. & S. Glasg., has been appointed Assistant Medical Officer to the Barony Parish Hospital, Barnhill, Glasgow, vice Nicholson.

SMITH, GILBERT T., M.R.C.S. Eng., has been appointed a Public Vaccinator for the District of Whangarei, New Zealand.

TILSTON, EDWARD, L.R.C.P. Edin., M.R.C.S., has been appointed Government Medical Officer and Port Medical Officer, and Medical Officer to the Cottage Hospital, Thursday Island, Queensland, vice Salter.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—Resident House Surgeon. Salary £65 per annum, with board, lodging, and washing in the Hospital.

BOOTLE BOROUGH HOSPITAL.—Resident House Surgeon. Salary £80 per annum, with board, washing, &c.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE, 101, Great Russell-street, London.—Assistant in the Bacteriological Department. Salary £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Assistant Surgeons.

CHARING-CROSS HOSPITAL, London, W.C.—Physician or Surgeon for Diseases of the Skin.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Surgeon. Board, lodging, &c., provided.

EAST SUSSEX COUNTY ASYLUM, Haywards Heath.—Junior Assistant Medical Officer. Salary £100 a year, with board, lodging, and washing.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's-buildings, Holborn, W.C.—Honorary Physician.

KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £90 the first year, with board, &c., rising to £100 the second year.

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Stipend £60, with board, lodging, and washing.

RADCLIFFE INFIRMARY, Oxford.—House Physician and House Surgeon, for six months. Salary at the rate of £80 a year, with board, lodging, and washing.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, London.—Lecturer on Chemistry.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—House Surgeon, for six months. Salary £20, with board and residence in the Hospital.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—House Physician, for six months. Salary £20, with board and residence in the hospital.

WEST HAM HOSPITAL, Stratford, E.—Secretary. Commencing salary £150 per annum.

YORK COUNTY HOSPITAL.—Secretary and Manager. Salary £150 per annum.

Births, Marriages, and Deaths.

BIRTHS.

DAVIES-JONES.—On Oct. 25th, at Bodfeddyg, Cwmaman, Aberdare, the wife of D. Davies-Jones, M.B., M.S. Edin., of a daughter.

DRAKE-BROCKMAN.—On Oct. 25th, at Muttra, N.W.P. India, the wife of Surgeon-Captain H. E. Drake-Brockman, F.R.C.S.E, Indian Medical Service, of a son.

GILPIN.—On Oct. 25th, at Preston House, Sandwich, the wife of Bernard Beville Gilpin, Surgeon R.N., H.M.S. *Northampton*, of a daughter.

GRANT.—On Oct. 31st., at Woodthorpe, Padiham, Lancashire, the wife of George Grant, M.D., of a daughter.

GREGOR.—On Oct. 21st, at Ilford-hill, Ilford, Essex, the wife of Alexander Gregor, M.B., C.M. Aberd., of a son.

LAST-SMITH.—On Oct. 29th, at Mayfield, Torquay, the wife of Edward Last-Smith, L.R.C.P.E., L.R.C.S.E., of a daughter.

MCDONNELL.—On Oct. 28th, at Southport, at the residence of Mrs. Cooper of Fairfield, the wife of Surgeon J. R. McDonnell, R.N., of a son.

NEALE.—On Oct. 28th, at London-road, Leicester, the wife of J. Headley Neale, M.B. Edin., and C.M., M.R.C.P. Lond., of a son.

STREET.—On Oct. 28th, at Addingbourne, Selwyn-gardens, Cambridge, the wife of Surgeon-Captain Ashton Street, I.M.S., of a daughter.

MARRIAGES.

ALDERSON—HAINES.—On Oct. 31st, at St. Stephen's, Ealing, by the Rev. Canon Morris, D.D., Chaplain to the Duke of Westminster, K.G., assisted by the Rev. George Miller, M.A., Vicar of Holy Trinity, Westminster, and the Rev. Seymour Tupholme, D.D., Vicar, Frederick Albert Alderson, M.B., L.R.C.P., M.R.C.S., of 32, West Kensington-gardens, eldest son of Frederick Henry Alderson, M.D., Southerton House, Hammersmith, to Laura, only child of the late George Haines, Esq., Courtlands, Castlebar, Ealing.

BOWER—CARROLL.—On Tuesday, Oct. 30th, at St. Peter's, Southsea, by Rev. G. R. Tompkins, vicar, assisted by R. J. Hughes Eames, vicar of Birling, William Bower, M.A., M.B., B.C. Cantab., to Edith Corinna, daughter of Major J. Carroll of Southsea.

BUCHANAN—HARLAND.—On Oct. 25th, at the Parish Church, Harefield, Middlesex, Surgeon-Captain John Blacker Whitla Buchanan, A.M.S., eldest son of Lieutenant-Colonel Buchanan of Edenfel, Omagh, county Tyrone, to Mary Louisa, eldest daughter of the Rev. Albert A. Harland, M.A., Vicar of Harefield.

DURNO—MILNE.—On Oct. 25th, at St. Andrew's Episcopalian Church, Aberdeen, Leslie Durno, M.D., Stoke Newington, to Ina, younger daughter of the late Robert Milne, C.E., Manager G. N. S. Railway, Aberdeen.

FREELAND—HOOK.—On Oct. 23rd, at the Parish Church (All Saints'), Snodland, Kent, by the Rev. J. G. Bingley, Rector, assisted by the Rev. C. W. Hoysted, Curate of Gillingham, Douglas Law Freeland, L.R.C.P. Lond., M.R.C.S. Eng., son of Dr. J. Freeland of Antigua, West Indies, to Marian Eva, only daughter of the late Mr. and Mrs. Eustace Hook of Delamere, Snodland, and niece of the Misses Hook of Peles, Snodland.

LAWSON—CORMACK.—On Oct. 18th, at Bombay, Charles Bunbury Lawson, M.B., C.M., A.M.S., elder son of Major-General James Lawson, Dover, to Margaret Campbell, daughter of James Cormack, Glencairn-crescent, Edinburgh.

MILLER—EASTON.—On Oct. 25th, at St. Margaret's, Rochester, John Miller, M.R.C.S., L.R.C.P., eldest son of the late Henry Miller, Uplands, Ipswich, to Sarah Rogers, youngest daughter of the late Nathaniel Jonas Easton of Plymouth.

RUSSELL—SMITHERS.—On Oct. 27th, at Holy Trinity Church, Eltham, Kent, John Ronaldson Russell, M.R.C.S., L.R.C.P., of Westerham, Kent, to Louise, second daughter of John Smithers of Eltham, Kent.

SANKEY—CORNELL.—On Oct. 24th, at Baschurch, Edward Hugh Octavius Sankey, M.A., M.B., B.C., youngest son of the late W. H. O. Sankey, M.D., F.R.C.P., of Boreatton Park, Baschurch, to Caroline J. Cornell, only daughter of the late George Cornell, Esq., of Fordham, Cambs.

SPENCER—MANSELL.—On Oct. 30th, William Frederick Spencer, M.D., Fleet Surgeon R.N. (Retired), of Plymouth, to Elizabeth, eldest daughter of Thomas Henry Mansell, Ashcroft, Temple Balsall, Warwickshire.

DEATHS.

DEWSNAP.—On Saturday, Oct. 27th, of enteric fever, at Chymorvah Marazion, Cornwall, the residence of his father-in-law, Ambrose Oxley Michell, William Frederick Dewsnap, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of 8, Gloucester-road, South Kensington, London, S.W., aged 33.

STILES.—On Oct. 27th, at 21, St. Thomas's-road, Spalding, Thomas Stiles, M.R.C.S., L.S.A., in his 97th year, for over fifty-two years in practice in his native village of Pinchbeck, near Spalding.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), Gt. Northern Central (2.30 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY.—ODONTOLOGICAL SOCIETY (40, Leicester-square, W.C.).—8 P.M. Conversational Evening.

TUESDAY.—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Herbert Snow: Myeloid Corpuscles in some Rare Specimens of Cancerous Disease.—Dr. Francis Hawkins: Extensive Peri-renal Hæmorrhage.—Dr. J. E. Squire: Mediastinal Tumour invading the Lung.—Mr. Edgar Willett: (1) Congenital Cystic Adenoma of Kidney; (2) Adenoid Carcinoma of Kidney.—Dr. E. W. Goodall: Perforation of Soft Palate in Scarlet Fever.—Mr. Stephen Paget: (1) Malignant Disease of the Larynx; (2) Acute Septic Epiphysitis. Card Specimen:—Dr. Voelcker: Uterus Didelphus.

WEDNESDAY.—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Drs. Cullingworth, Duncan, Dakin, and Blacker. Dr. Braithwaite (Leeds): On Atrophy with Collapse (Cirrhosis), Fibroid Degeneration and Angioma of the Ovaries.—Dr. W. S. A. Griffith: Note on the Importance of a Decidual Cast as Evidence of Extra-uterine Gestation.—Dr. Farrar (Gainsborough): A New and Speedy Method of Dilating a Rigid Os in Parturition.

THURSDAY.—BRITISH GYNÆCOLOGICAL SOCIETY.—Specimens will be shown. Dr. Bantock: Hæmatosalpinx and Tubal Pregnancy contrasted.—Dr. Balls-Headley: A case of Puerperal Pelvic Cellulitis from Phlebitis.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—5 P.M. Dr. James Cagney: Syringo-Myelia and Leprosy—a Memoir. Informal Exhibition of Patients at 4.30 P.M.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Card Specimens at 8 P.M. Mr. E. Treacher Collins: Lamellar Cataract and Rickets.—Mr. Kenneth Scott: Notes of a case of Complete Ankyloblepharon. And other Papers.

SOUTH WEST LONDON MEDICAL SOCIETY (3, High-st., Wandsworth).—8.30 P.M. Ordinary Meeting.

FRIDAY.—CLINICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Cases only will be shown. Every member will receive a card of the Agenda before the meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY.—LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields, 1 P.M., Mr. R. M. Gunn: Cataract.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. Whistler: Demonstration of Cases.—Bacteriological Laboratory, King's College, 3 to 5 P.M., Prof. Crookshank and Dr. Hewlett: Actinomycosis &c.

ROYAL INSTITUTION (Albemarle-st.).—5 P.M. General Monthly Meeting.

TUESDAY.—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Alcoholic Insanity.

LONDON SKIN HOSPITAL.—8 P.M. Mr. James Startin: Acne, its Causes and Treatment.

WEDNESDAY.—LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton, 4 P.M., Dr. J. M. Bruce: Cases in the Wards.—Royal London Ophthalmic Hospital, Moorfields, 8 P.M., Mr. A. S. Morton: Optic Neuritis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Lecture by Dr. Gowers.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—Dr. Morgan Dockrell: Diseases of Sebaceous Glands.

WEST LONDON HOSPITAL (Hammersmith-road, W.).—5 P.M. Dr. Seymour Taylor: The Treatment of Specific Fevers. (Post-graduate Lecture.)

THURSDAY.—LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Gt. Ormond-st., 3.30 P.M., Dr. A. Garrod: Paralysis in Children.—National Hospital for the Paralysed, Bloomsbury, 2 P.M., Dr. Ormerod: Ataxia.—Central London Sick Asylum, Cleveland-street, W., 5.30 P.M., Prof. C. Allbutt: Cases in the Wards.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY (Board Room, Great Northern Central Hospital, Holloway-road, N.).—8.30 P.M. Demonstration of Clinical Cases by Dr. Harry Campbell, Mr. Mower White and others.

FRIDAY.—LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton, 4 P.M., Dr. J. M. Bruce: Cases in the Wards.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—11 A.M. Dr. J. O. W. Barratt: Anatomy of the Skin.

SATURDAY.—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 11 A.M., Dr. Smith: Insanity with Syphilis and Organic Brain Disease.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—Dr. Morgan Dockrell: Psoriasis and Seborrhœic Dermatitis.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 1st, 1894.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Oct. 26	29·51	S.W.	53	51	90	61	52	...	Bright
,, 27	29·25	S.W.	56	53	83	60	53	0·45	Raining
,, 28	29·52	W.	51	49	66	56	50	0·55	Cloudy
,, 29	29·65	S.W.	49	47	90	58	46	0·60	Cloudy
,, 30	29·76	S.W.	50	49	63	55	49	0·09	Raining
,, 31	30·02	S.E.	55	54	70	59	50	1·65	Raining
Nov. 1	30·02	S.	58	55	88	62	54	0·02	Fine

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

UNDER no circumstances do the Proprietors authorise the insertion of loose advertisement circulars and handbills in THE LANCET. Any such announcements are inserted by the newsagents, whom the Proprietors cannot control. At the same time, the Manager will be glad if readers will send him copies of any circulars, with the name and address of the agent through whom they obtain THE LANCET, and the Manager will then endeavour to mitigate the nuisance.

THE SONG OF THE GENERAL PRACTITIONER.

Sung at the Annual Dinner of the Bolton and District Medical Society, Oct. 4th, 1894.)

He must not walk his rounds for fear his patients think him poor,
And dearly do they love to see a carriage at their door;
And if his horse is fat—"He must have little work to do,"
And if it's lean the reason is: "He starves the poor old screw."

Should he call upon his patients every day when they are ill,
His motive plainly is "to make a great big doctor's bill";
If he visits them less frequently—thus less'ning their expense—
The chances are he'll be accused of wilful negligence.

He must work all day and half the night, and never say he's tired;
For the public look upon him simply as a servant hired;
And should he take a holiday he'll find when he comes back
Some patients have resented it by giving him "the sack."

Concerning money he must seem indifferent to be,
And folks will think he practises from pure philanthropy;
When we hear about him boasting of the guineas that he earns
We wonder if they all appear in his income-tax returns.

About his own afflictions he must never say a word;
The notion of a doctor being ill is so absurd!
And when, perhaps from overwork, he's laid upon the shelf
His sympathising patients say: "Physician, heal thyself!"

Bolton. *J. Johnston, M.D.*

KRESOLINE VAPOUR IN DIPHTHERIA.

WE have received an account of a case of diphtheria in which a striking amelioration was produced by the use of kresoline vapour. The child (three years old) when first seen at 4 P.M. on the 15th of the month was in a state of torpor, with great glandular swelling, and much exudation on the fauces. A tent-bed was constructed, and kresoline vapour allowed to freely enter it, drop doses of tincture of perchloride of iron being also given. At 1 A.M. on the 16th the child had much improved, and at 10 A.M. (when he was removed to hospital) he "looked, and practically was, convalescent." Our correspondent does not enter into sufficient detail of the local changes in the throat which occurred after the few hours' treatment by kresoline vapour; and this omission, together with the lack of any subsequent history of the case, deprives it of much of its value.

Mrs. M. H. Hunt.—We do not know what the result of the latest research on the subject our correspondent refers to has been, but sour milk, so long as it was initially healthy, is not only not injurious, but in some instances is preferable to fresh. Indeed, in cases of impaired digestive function milk that has been artificially curdled and beaten up is taken with distinct benefit. In this way the separation of the proteids into large clots in the stomach is avoided, and digestion is in consequence often facilitated. We may also point out that koumiss and kefyr are examples of sour fermented milk containing an excess of carbonic acid gas which are considered valuable foods in the treatment of phthisis and other diseases.

M.D.—Our correspondent's letter, which touches upon important points not to be lightly settled, will receive our early attention. We cannot understand that, under any circumstances, the giving of a certificate can be compulsory.

F. A. H.—The story is certainly very interesting and extraordinary. We should like to hear the medical attendant's account.

"THE 'INTENSE' CAT."

To the Editors of THE LANCET.

SIRS,—My object in writing this letter is not to dwell upon the feline attributes of "intensity" or of "electric excitability," touched upon in your annotation in THE LANCET of this date, although I may say in passing that if a thoroughly efficient transmission of powerful dynamic effect to the system or peripheral stimulation is sought from "a stroke on the back" of one of these animals the most reliable species for the purpose is not the tortoiseshell tom, but the classic one "o' nine tails," in which case it may be probable that the one so stimulated would be at one with your annotator, and "find it difficult" to repress a more or less emphatic request to stop." May I recommend the treatment to your "poet" of page 1013? But, to be serious, there is a great deal more to be said on the subject of cats as carriers of contagion of all sorts than, it is evident, has ever been dreamt of, not only in the philosophy of the promoters of the National Cat Show, but the community at large. The harmless (?), though necessary, cat will be found in about ninety houses out of a hundred; and if there are children the cat is a sort of fetish for them—they nurse it, play with it, pet it, and even kiss it. This during the day-time. At night the cat is carefully "put out," and the pet of the nursery goes forth to meet at its trysting place upon the tiles the animal just newly come from a day's repose in a room filled with scarlet fever desquamations, or on the back wall it takes a siesta with a kindred spirit that has been all day in a dirty hovel, kissed and fondled by a child whose diphtheritic throat is untreated and uncared for, and who will ere long be a victim to the disease. There is no "caste" about cats, and our nursery pet may share in some out-of-the-way place its companion's bed, made of, perchance, a disused dressing or pile of a phthisical patient's handkerchiefs. At the return of daylight the fetish is again installed, and is kissed, fondled, nursed, and petted as of yore. Some of your readers will accuse me of bacteriophobia; but in spite of the impeachment I must go on to say that it is not only as a vehicle for the carrying from place to place of microbes of human origin that the cat is to be considered, but there seems to me the much more grave possibility that cats themselves have contagious ailments which may be directly communicable to the human subject. There is a saying in Devonshire to the effect that "if the cat gets a cold it goes through the house," and I have myself often noticed that it is so. Cats sneeze their catarrhal discharges on to articles of furniture, carpets, &c., from which the fluid constituents evaporate and leave an infectious powder to mingle with the air. Who, having kept a cat, has not noticed that it at times has a sore-throat and can hardly take its food? May not this be diphtheritic or scarlatinal; and may not these complaints be capable of modulation in the feline system, so that they are not greatly injured themselves, though they may transmit to man the severer malady? Glanders is not necessarily fatal to horses, nor is small-pox to cows, and I would not be surprised if the nine-lived cat were powerful enough in bactericidal properties to modify even the diphtheria virus.

There are a great many more points I might mention, but I must not further encroach upon your space. I am sure the subject is worth serious consideration. I am, Sirs, yours faithfully,

Oct. 27th, 1894. L.R.C.P.

MEDICAL SELF-ASSERTION AT BOLSOVER.

A REMARKABLE announcement is being circulated in the form of circular and testimonials by Mr. Walter Spencer at Bolsover. Mr. Spencer is determined that the good people of Bolsover shall be in no doubt as to his merits. So he forwards them testimonials, that they may see "in what estimation I am held, not only by a large society for which I have been the surgeon for the last seven years, but by some of the leading medical men of the day, and their opinion of my professional ability and skill." Then follows a list of the honours gained at the Yorkshire College of the Victoria University.

M.O.H.—There is no obscurity whatever as to the case submitted to us. A medical officer of health is a "medical practitioner" within the meaning of Section 3 (1 b) of the Infectious Diseases Notification Act, 1889, and he is also a "person" under (2) of the same section. He thus has not only the obligation to notify a case of infectious disease which he is attending, but he becomes liable to the penalty of 40*s.* to which every "person" in question is subject if he fails to notify. Notification returns would be utterly incomplete and largely worthless were it otherwise, and it would place medical officers of health in a most invidious position of privilege were they alone amongst medical practitioners entitled to keep secret the existence of infectious diseases amongst their own private patients. As to payment, this naturally follows; for Section 4 (2) again uses the same words, and states that the local authority shall pay "to every medical practitioner for each certificate duly sent by him in accordance with this Act a fee of two shillings and sixpence if the case occurs in his private practice." And in Section 11 of the Act it says specifically that "where a medical practitioner attending on a patient is himself the medical officer of health of the district, he shall be entitled to the fee to which he would be entitled if he were not such medical officer." We cannot conceive where room for doubt lies; but some years ago a medical officer of health asked the view of the Local Government Board as to this, and they at once answered, in a letter dated April 6th, 1891, by referring him to Section 11 of the Act.

SEWERS.

To the Editors of THE LANCET.

SIRS,—In the annotation columns of THE LANCET of Oct. 27th you review the decision of the magistrate sitting at the Marylebone Police-court respecting the definition of a sewer—viz., that where more than one house is connected to a drain then the combined drain is constituted a sewer. This question, until a recent decision in the High Court, has been a troublesome one all over the country, and I think the decision—which, as you rightly observe, appears to be "sound and reasonable"—will prove permanent, for only yesterday a case was decided in point at the Brighton County Court by Judge Martineau. The drain serving two houses was held to be public, and the Hove Commissioners, who had ordered the householder to repair it, were found to be themselves liable.

Referring also to the letter in the same issue signed by Dr. F. P. Atkinson, will you kindly allow me space to say that the public authority of any district can be compelled to close and seal road level sewer ventilators where they can be proved to be a nuisance to the people who reside in houses in proximity? Servants especially, who live principally in the basement portion of such residences, are subject to sore-throat. I have met with many cases where there has been complaint of sore-throat, &c., and finding that the house has been without sanitary defect, and clean also, but that a sewer ventilator was near to it, I have communicated with the medical officer of health, and at the same time forwarded to the vestry or borough surveyor a request from the householder or owner that the open ventilator in question might be closed, and then kept observation after the work has been done; I have always found the result beneficial. Several years ago in a very large pleasure town with not altogether good sewers the authorities were advised to multiply the number of these open grid sewer ventilators, and at the same time to increase their dimensions—viz., from 18 in. by 9 in. to 30 in. by 18 in. The result was disastrous, and after a deal of loss and suffering the ventilators were sealed. It was then found that illness decreased *pari passu* with the closing. The fact is, if sewage was properly carried away open-air ventilation of sewers would be unnecessary, and greatly to the profit of the inhabitants. I am, Sirs, yours respectfully,

Ebury-street, S.W., Oct. 29th, 1894. DANIEL THOMAS BOSTEL.

"CERTIFICATION OF DEATH IN SCOTLAND."

To the Editors of THE LANCET.

SIRS,—In reference to the letter of "An Inquiring Resident" allow me to say that the procurator-fiscal in Scotland is the same as a coroner in England, and has power to order a medical man to inspect and examine the body of a dead person in his charge. For this service the medical man is entitled to a fee; and to obtain the remuneration he should not be content with a verbal request made through the police, but see that he gets the procurator-fiscal's warrant.

I am, Sirs, yours faithfully,

Oct. 27th, 1894. F.R.C.S.

"VEILED SHEETS."

As a protection against troublesome and noxious insects, such as gnats and mosquitos, Mr. Charles Smith, of 39, Albert-road, Peckham, has devised a substance he terms "veiled sheets," which we can understand might be of great service to invalids and children, and materially add to the comfort of all when flies abound. In tropical climates the invention will prove of particular service. The substance may be applied to coverlets, drapery of all sorts, and hangings of every description, and is so woven that when used for the face it allows the user to see surrounding objects, and in no way obstructs his breathing. A useful purpose to which the invention could be applied would be the veiling of the faces of the dead, thus preventing flies from carrying infectious germs to the living while at the same time allowing the features of the deceased to be clearly seen.

Rev. Norman Bennet will see a reference to this wretched pamphlet in THE LANCET of Oct. 20th in answer to J. P. The authorities of Cambridge and Oxford should be moved to make a representation to the Public Prosecutor on the subject. It is highly detrimental to young men and to their morals that such works should be circulated amongst them. Our correspondent will do good service by communicating directly with the Public Prosecutor, and urging the Universities to do the same.

L.R.C.P. Edin.—British and other practitioners holding proper medical and surgical qualifications are admissible for the Doctorate of the University of Brussels without any further curriculum. Full information is given on page 506 of the Students' Number of THE LANCET, published on Sept. 1st of this year.

Country Subscriber.—Ralfe's "Diseases of the Kidneys and Urinary Derangements"; Dickinson's "Renal and Urinary Affections"; Roberts's "Practical Treatise on Urinary and Renal Disease."

Fairplay.—Our correspondent was perfectly right. Not to have charged for his night visit would have been unjust to himself, a form of injustice not uncommon among medical men.

"*Science or Fact.*"—Our correspondent's communication under this title does not bear his address.

Cardiac.—We never recommend individual practitioners.

THE MEDICAL OFFICER OF HEALTH AND NOTIFICATION.

To the Editors of THE LANCET.

SIRS,—A case was notified to a county medical officer as an infectious one. Four days elapsed before he saw it, and after three days more, on meeting the notifier, the medical officer informed him that he did not consider the case an infectious one. He has advised his authority to repudiate responsibility. Is a medical officer entitled to act so? Can anyone give me the date when a letter from the Local Government Board was published in THE LANCET (some three or four years ago) stating that it was no part of the duty of a medical officer to interfere with the diagnosis of a case?—I am, Sirs, yours faithfully,

Oct. 24th, 1894. M. L.

*** The letter in question was addressed by the Local Government Board to the Town Clerk of Bolton on Oct. 1st, 1891. It was as follows:—"It appears to the Board to be undesirable that the medical officer of health should in general undertake a personal diagnosis of the notified cases in order to test the accuracy of the certificates. In some cases, as where there is reason to doubt the good faith of the certifier, or where the disease is one which in itself, or owing to attendant circumstances, threatens exceptional danger to the community, it may be desirable that the medical officer of health should make a personal diagnosis; but it must be remembered that this can only be done with the consent of the patient or those having charge of the patient, and that the medical practitioner in charge of the case should always be communicated with and his coöperation secured if possible."—ED. L.

During the week marked copies of the following newspapers have been received:—*Sussex Daily News, Ayrshire Post, Bradford Observer, Folkestone Express, Birmingham Gazette, Brighton Observer, Manchester Guardian, Sheffield Telegraph, East Anglian Daily News, South Wales Daily News, Cork Constitution, Montreal Herald, Pioneer Mail, Builder, Sydney Morning Herald, Bombay Gazette, Brisbane Courier, New York Herald, Times of India, Architect, Yorkshire Herald, Irish Times, Grantham Journal, United Service Gazette, Citizen, Scotsman, Melbourne Weekly Times, Leeds Mercury, Manchester Courier, Woodbridge Reporter, Star, Morning, Pontefract Telegraph, Lowestoft Journal, Wolverhampton Chronicle, Liverpool Daily Post, Bristol Mercury, City Press, Weekly Free Press and Aberdeen Herald, Yorkshire Post, Local Government Chronicle, West Middlesex Standard, Sanitary Record, Bradford Daily Telegraph, Reading Mercury, Hertfordshire Mercury, Surrey Advertiser, West Middlesex Advertiser, Local Government Journal, Jarrow Express, Le Temps (Paris), Australasian Medical Gazette, Malton Gazette, Midhurst Times, Pocklington News, Courrier de la Presse, Western Daily Mercury, Banffshire Advertiser, Kelso Mail, Sevenoaks Chronicle, Kent News, Leeds Hospital Magazine, Le Figaro (Paris), &c.*

Communications, Letters &c. have been received from—

A.—Dr. H. Alder-Smith, London; Dr. F. H. Alderson, London; Dr. Julius Althaus, London; Mr. E. S. Angrove, Walsall; Apollinaris Co., Ltd., London; Anti-quackery, Rishton.

B.—Dr. T. Buzzard, London; Dr. R. W. Barkwell, London; Dr. B. Beer, Vienna; Dr. J. W. Byers, Belfast; Dr. G. S. Buchanan, London; Dr. R. Barnes, Lyss; Dr. W. S. H. Briand, London; Dr. Barrett, London; Mr. R. Barwell, London; Mr. N. Bennet, London; Mr. W. J. Barkas, Sydney, N.S.W.; Mr. J. F. Bullar, Southampton; Mr. R. H. Browne, London; Mr. L. A. Bidwell, London; Mr. H. F. Barnes, Dent; Mr. R. Boyd, London; Mr. R. Baker, London; Mrs. S. A. Bennett, London; Miss Braithwaite, Ramsgate; Messrs. W. V. Bowster & Sons, London; Messrs. Blondeau et Cie., London; B. G., London; B. F. K., London.

C.—Dr. E. M. Crookshank, East Grinstead; Prof. M. Charteris, Glasgow; Dr. H. Campbell, London; Dr. L. Canney, Cairo; Mr. Atthill Crutwell, London; Mr. W. R. Culling, London; Mr. H. E. Cobb, Middlesex; Mr. H. B. Collins, Kingston-on-Thames; Mr. W. L. Christie, Bristol; Mr. E. R. Coffey, Farnham; Mr. D. Cooper, Huntingdon; Messrs. Callard and Co., London; Messrs. D. Currie & Co., London; Cortland Wagon Co.

D.—Mr. T. Dixon, London; Messrs. Down Bros., London.

E.—Epidemiological Society of London, Hon. Secretaries of; Economic Smokeless Fire Co., Ltd., London; Exeter Asylum, Clerk of.

F.—Dr. W. H. Fenton, London; Dr. R. W. Felkin, Edinburgh; Dr. T. R. Fraser, Edinburgh; Dr. G. Fleming, Combe Martin; Dr. W. Fligg, Taunton; Surg.-Capt. G. H. Fink, London; Mr. W. F. Fisher, Winchfield; Mr. M. H. Feeny, Ulverston; Messrs. Fannin and Co., Dublin; Messrs. Fletcher, Fletcher and Co., London.

G.—Dr. W. R. Gowers, London; Mr. J. L. Green, Salisbury; Mr. H. R. Greene, Knaphill; Mr. A. G. P. Gipps, Plymouth; Messrs. R. W. Greeff and Co., London.

H.—Dr. G. Heaton, Birmingham; Dr. V. D. Harris, London; Dr. P. Hair, Carlisle; Dr. A. Hill, Birmingham; Dr. R. T. Halliday, Lochgoilhead; Mr. T. W. Hulke, London; Mr. F. C. N. Hicks, Oxford; Mr. H. B. Hewetson, Leeds; Mr. W. Higgins, Taunton; Mr. H. P. Helsham, Beccles; Mr. A. Harston, London; Mr. W. T. Horton, London; Mr. Holmes, London; Mr. J. Heywood, Manchester; Mr. J. C. Humphreys, London; Miss Hooper, London.

I.—Institute of Chemistry of Great Britain and Ireland, London, Assistant Secretary of; Imperial Live Stock Insurance Association, Ltd., London, Manager of.

J.—Dr. R. Jardine, Glasgow; Dr. W. S. Joss, Chesterfield; Dr. J. E. Jones, Dolgelley; Sir George Johnson, London; Dr. Jaeger's Sanitary Woollen System Co., Ltd., London.

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